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ABSTRACT

The first part of this document is a report describing "Where in Louisiana," a program model using IBM LinkWay (i.e., a multimedia software package providing tools to merge text and graphics) that was created as a cooperative learning activity to enhance and expand state studies. The introductory report discusses ways the model promotes learning, capabilities of LinkWay, and suggested project organization; an address for ordering a free copy of the program on diskette is provided. The second part of the document is a supporting teacher manual which presents beginning LinkWay users with the background to initiate classroom activities or extend this model to other states and regions. Areas of cooperative learning addressed by the model are listed, including: (1) initiating computer literacy; (2) providing relevance to state and local studies; (3) incorporating link-knowledge through design and research activities; (4) and emphasizing cooperative learning through student/teacher and group activities. Instructions for specific LinkWay functions such as creating button icons, folders, and buttons are given; and sample screen displays are included. (ALF)

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WHERE IN LOUISIANA

R. E. Gillan
Ross Williams

"Where in Louisiana," a program model using IBM LinkWay, was created as an cooperative learning activity to enhance and expand state studies (Louisiana Social Studies). Teachers and students from each parish or region of the state can tailor relevant information to extend the curriculum to local studies. Gathering and compiling local facts and information provides student motivation and individualizes studies. Required research skills are enhanced by working with relevant history, demographics, government, maps, pictures, and general facts unique to a Parish, community or region of the state. The supporting teacher manual provides beginning LinkWay users with the background to initiate classroom activities or extend this model to other states and regions. Additional, this concept can easily be adapted for other hypermedia programs such as Toolbook and the MAC Hypercard.

This model promotes learning in the following ways:

1. applies computer literacy skills, introduces programming design and application of computer art (graphics).
2. gives relevance to state and local studies through the search for facts, history, demographics, maps, industry, and natural resources as outlined in state curriculum guides.
3. incorporating link-knowledge through design and research activities.

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4. Emphasizing cooperative learning through student/teacher and group activities.

LinkWay (c) is a multimedia software package which provides simple tools to merge text and graphics. Information is organized on individual pages residing in "folders". Folder pages and related folders can be linked with "buttons" activated with a mouse. These "buttons" can take the form of a graphic object or word(s). Buttons can also provide information on individual pages (such as credits, text reference files, help information, and graphics). The LinkWay (c) software includes an effective tutorial and documentation.

"Where in Louisiana" provides an example of LinkWay's (c) capability and a manual for teachers and students to acquire skills to become competent users of LinkWay (c). Computer literacy is enhanced through the application of keyboarding, mouse manipulation, and the use of basic DOS commands. Keyboard skills are used in LinkWay's (c) simple text editor (which emulates word processors). The program uses the mouse with a simple menu format similar to most computer software programs. The paint program offers familiar tools to create complex graphics for a presentation.

The logical sequence of producing a LinkWay (c) presentation requires planning and research before organizing information in the program environment. "Where in Louisiana" provides sufficient examples and models for a classroom teacher to design a research activity that correlates with the scope of "Where in Louisiana". Individual and group/team research becomes an

obvious method for compiling needed information. "Where in Louisiana" is multi-leveled and open-ended, offering a means for teams of students to develop information unique to each individual student's interest.

Project organization may be as follows:

1. Teacher or instructor.
2. LinkWay program coordinator
    a. Teacher
    b. Computer Literacy instructor
    c. Proficient student
3. Team project coordinator
    a. Student with leadership abilities to:
        1) coordinate overall project
        2) assist group integration of graphics, research, etc.
4. Group leaders for:
    a. Graphics
    b. Research
    c. Composition
    d. Programming
5. Team members

Students can include any system of organization that meet the needs of the activity. As each page is created, flow charts, time lines, story boards, etc. help to keep the project on track.

"Where in Louisiana" provides a parish model (Sabine Parish), an example of directions to be followed in developing other parish or region models. A graphic outline is provided for

each of the 64 Louisiana parishes. LinkWay Paint, the graphic module of LinkWay, is used to expand a parish outline to include terrain details, location of transportation systems, and towns and communities.

In order to demonstrate the transportability of the "Where in Louisiana" model, a "Where in Texas" has been developed to support Texas state studies. This model follows the Louisiana concept and provides a vehicle to study Texas state facts as well as research and present information on the county and local level. Further, Tookbook and Hypercard versions are in the development process.

To receive a free copy of "Where In Louisiana" or "Where in Texas," send a formatted 3 1/2 diskette with mailer, return address, and postage to:

Where In Louisiana/Texas
Education Technology Center
TEC-NSU
Natchitoches, LA 71497

Direct questions about these products to Bob Gillan or Ross Williams at (318) 357-5091.

Where In Louisiana

Teacher Manual

Bob Gillan and Ross Williams

1992

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Where in Louisiana

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1992

Where in Louisiana was created using IBM LinkWay, version 2.01
Where in Louisiana meets all IBM Program License Agreements

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WHERE IN LOUISIANA: A WORKING MODEL USING IBM LINKWAY

A Presentation/Multimedia Tool for the Classroom

Where in Louisiana provides Louisiana studies teachers a model for incorporating computer applications into their curriculum. The model model was created with IBM LinkWay, an "authoring" program, designed for available classroom computer technology. It gives teachers and students a medium for creating tutorials, presentations, and multimedia applications in all curriculums.

The *Where in Louisiana* model was created as an interactive presentation to enhance and expand state studies. The development of a comprehensive Louisiana studies program with the scope and sequence covering the course is evident. Each parish or region of the state can tailor relevant information to enhance a part of the curriculum marginally addressed.

Gathering and compiling local facts and information can provide student motivation and individualize the studies. Required research skills are honed by working with relevant history, demographics, government, maps, pictures, and general facts unique to a parish, community or region of the state. This information can be compiled to offer a current and comprehensive vehicle for maintaining an updated state studies curriculum.

The *Where in Louisiana* model addresses four areas of cooperative learning:

1. Initiating computer literacy through use of keyboard skills, introduction of programming, and application of DOS. Word-processing and graphics are also utilized.

2. Gives relevance to state and local studies through history, demographics, maps, and natural resources as outlined in the state curriculum guide.

3. Incorporates link-knowledge through design and research activities.

4. Emphasizes cooperative learning through student/teacher and group activities.

Linkway is a software package that is compatible with hardware in the education environment. It can be used with the older computer hardware platforms or upgraded to the current level of PC technology. The latest upgrade, LinkWay Live, provides options for utilizing multimedia applications.

Minimum PC requirements for LinkWay is a 286 based computer, a color monitor, 640K base memory, and a mouse. Although not necessary, a hard drive is preferred.

The documentation and tutorial accompanying the LinkWay software provides an introduction and examples of LinkWay's procedures and tools. Allow for several hours to get acquainted with the program.

This manual outlines steps for introducing teachers and students to LinkWay and for incorporating their parish into the *Where in Louisiana* model.

GETTING STARTED

The *Where in Louisiana* diskette is in runtime. A runtime version allows users to run the program without LinkWay being resident on your computer. However, LinkWay must be used to edit or expand *Where in Louisiana*.

Using *Where in Louisiana* Runtime

1. Insert the runtime version of *Where in Louisiana* disk into drive A:
2. At the C:> prompt type `A:` and press ENTER.
3. At A: type `LA` and press ENTER.
4. Use the mouse to move the cursor. When the cursor changes to a hand, click the left mouse button once.
5. The first screen contains a help button with instructions for viewing *Where In Louisiana*.
6. Press ALT Q to quit.

Copy *Where in Louisiana* to LWWORK

Although *Where in Louisiana* may be edited and expanded while working from drive A, it is easier to copy the files to the hard drive (drive C:). To copy the Where in Lousiana files to the LWWORK directory on drive C:

1. Insert the *Where in Louisiana* disk into floppy drive A.
2. At the C:> type `CD LWWORK` and press ENTER.
3. Type `Copy A:*.*` and press ENTER.

The directory **LWWORK** is the default working directory of LinkWay. These files and all new files can later be copied to a floppy disk.

Opening a *Where in Louisiana* Folder

Where in Louisiana consist of five folders. Each FOLDER contains PAGES. The following procedures will allow you to access and create and edit FOLDERS.

There are two methods for starting LinkWay:

1. At the C:> type `LWGO` and press ENTER.

A second method is to change to the LinkWay directory:

1. At the C:> type `CD LINKWAY` and press ENTER.
2. Type `LINKWAY` and press ENTER.

If current version of LinkWay is 2.01, the screen in figure 1 will appear. To open *Where in Louisiana*:

1. Click on **FOLDER** in the menu bar at the top of the screen.
2. Several options appear in the menu. Click on **OPEN.**
3. A dialogue box appears on the screen (see figure 2). Click on AFUSALA. Click on the small black rectangle at the top left corner of the dialogue box.

The **FOLDERS** in *Where in Louisiana* are read only. This mode will not allow **FOLDERS** to be edited. LinkWay provides an option for making **FOLDERS** read only or changing the **FOLDER** into an edit mode using the **ACCESS LEVEL** tool.

Changing the ACCESS LEVEL

To change the **ACCESS LEVEL** to an editing mode:

1. Click on **FOLDER.** Click on **ACCESS LEVEL**
2. When the dialogue box appears requesting the password (see figure 3), press **ENTER** (The ENTER key is the current password).
3. When the second dialogue box appears, click on **FORMAT** (see figure 4) then click on the box in the upper corner of the dialogue box.

The **FOLDER** may be changed to read only by repeating the above procedure and clicking on **READ.**

Your students will add a new **FOLDER** containing pages of graphics and information about their parish to the *Where in Louisiana* model. The first step is to create a graphic file, an outline of your parish using LWPAINT.

Opening LWPAINT

There are two ways to initate the paint (LWPAINT) program. If a **FOLDER** is open (example: AFUSALA), LWPAINT may be activated to edit or create a graphic file.

1. Click on **OBJECT** and **TOOLS** (see figure 5)
3. Click on the file in the dialogue box named LWPAINT.
4. A dialogue box appears asking if you wish to open LWPAINT. Click on **YES.**

A new picture may be created or an existing graphic file may be opened and edited. (See Working with Link-Way Paint below.)

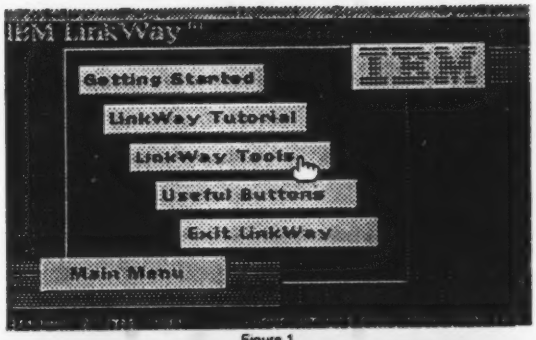


Figure 1

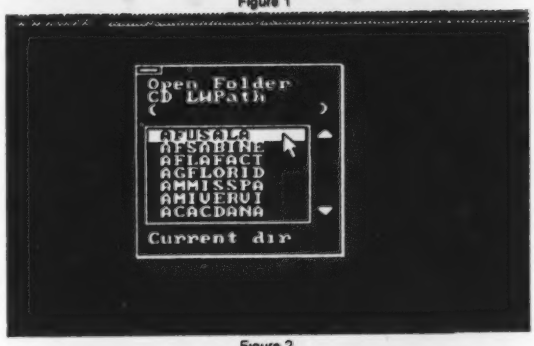


Figure 2

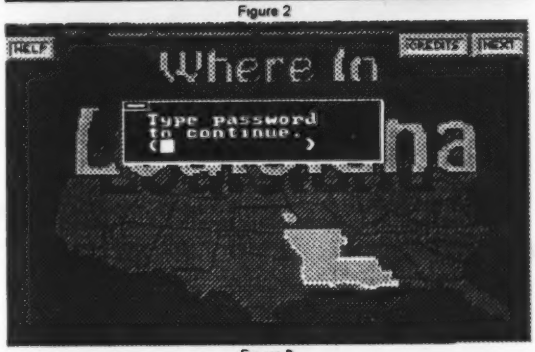
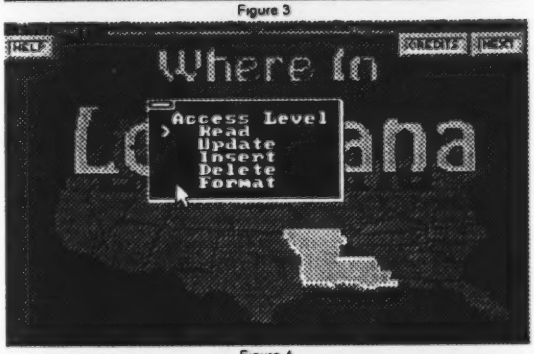


Figure 3



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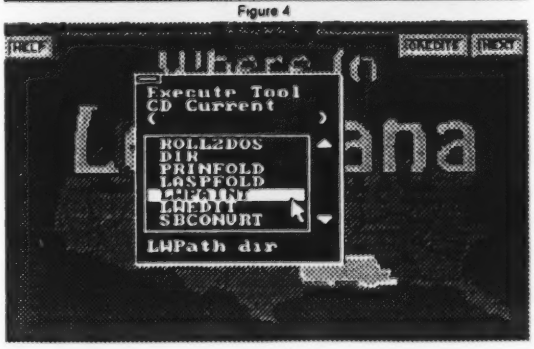

Figure 5

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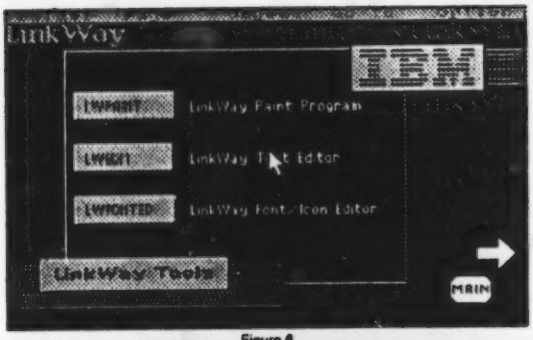

Figure 6

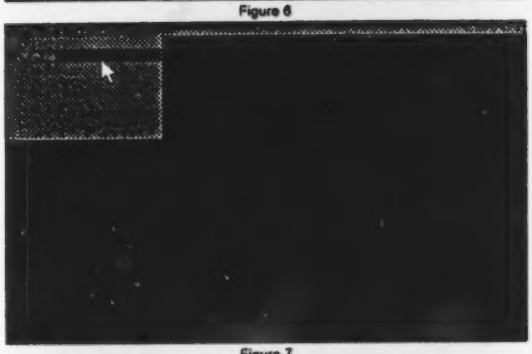

Figure 7

Figure 8

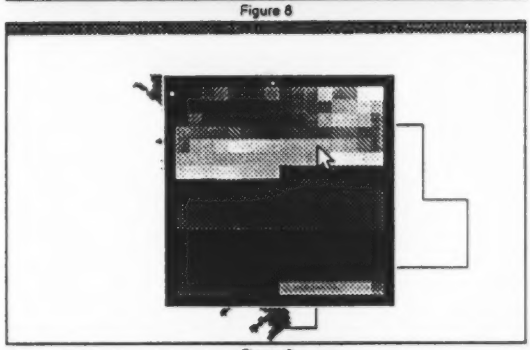

Figure 9

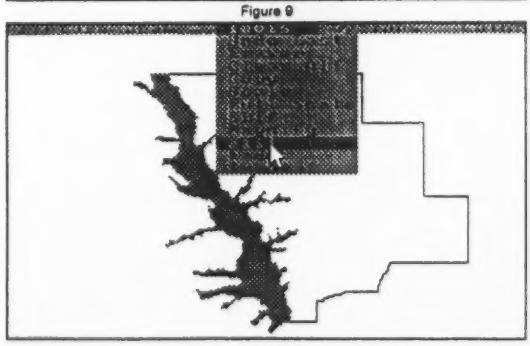

Figure 10

The second procedure for initiating LWPAINT:

1. Open LinkWay. When the Main Menu screen appears, click on **LinkWay TOOLS** (see figure 1).
2. A second screen appears (see figure 6).
3. Click on **LWPaint**.

Working with LinkWay Paint

There are several methods of generating a parish outline. One method is to use the DRAW tools (LINE and PENCIL) to create a "free-hand" outline of the parish; of course the results may not be accurate or properly scaled.

A second method involves a scanner. If you have access to a scanner and choose to use this method contact the authors of this manual for instructions (also see Screen Captures in the Appendix or consult the LinkWay documentation).

The third method requires a hard copy outline of your parish. Locate a map of the parish and make a copy that is the appropriate size to fit the screen (See Sabine in *Where in Louisiana* for the approximate parish size). Trace the outline and other features (cities, highways, rivers, etc.) onto transparent film using a marker or use a copier if you have the proper transparent film.

Tape the film to the monitor (DO NOT place tape directly to the screen) and follow these procedures.

1. Open LWPAINT and click on **PICTURE**.
2. Click on **NEW** (see figure 7). When the dialogue box appears type the new file name of the parish (see figure 8). Click outside the box or on the box in the upper left corner of the dialogue box.
3. Click on **COLOR** in the menu bar (see figure 9). Click on a light gray.
4. Click on **TOOLS** and **FILL** (see figure 10). Click on the screen, the screen will fill with white.
5. Click on **COLOR** and choose a color for the parish outline.
6. Click on **DRAW** in the menu bar and **PENCIL**.
7. Align the cursor with a point on the parish outline. Hold the left mouse button down and carefully (trace) follow the outline.

A fourth option is to obtain a LWPAINT file of your parish (see instructions for ordering a parish outline on page 5).

When the disk with the outline arrives, place the disk in drive A.

1. Type `C:` and press **ENTER**.
2. Type `CD LWWORK` and press **ENTER**.
3. Type `COPY B:*.*` and press **ENTER**.
4. Type `CD ..` to return to C:. Start LinkWay and open LWPAINT. Click on **PICTURE** and **OPEN**. When the dialogue box appears click on your parish file and click in the upper left corner of the dialogue box.

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Saving a graphic file

It is a good idea to save often (every 15 or 20 minutes). To save:

1. Click on **PICTURE** and **SAVE.**
2. A dialogue box appears with the default file name. Click outside the box to save the current file (figure 11).
3. To save the file under a new name type a new name. Click outside the box to save the file under the new name.

LWPAINT will not allow you to leave the paint program without saving the edited file. If you do not wish to save changes to a picture file:

1. Click on **PICTURE** and **QUIT.**
2. When the dialogue box appears and ask if you wish to QUIT WITHOUT SAVING PICTURE, click on **YES** (figure 12).

Editing the parish outline

The outline of your parish will need to be edited, regardless of the method used to create it. Figure 13 shows an example of a line that will fill and a line where fills will stop. The **FILL** tool may be used to change the color of a line (See **FILL** on page 10). The example of a line break will need to be corrected before area fills are initiated. Filling the background light gray is an example of area fill. These problems may be remedied using the **MAGNIFY** editing tool.

To use the **MAGNIFY** tool:

1. Click on **COLOR**. Select a color for the parish outline.
2. Click on **TOOLS** and **MAGNIFY** (figure 14)

The cursor changes to a box. Use the mouse to move the box to an area of the outline that requires editing and click. A larger box will appear in the upper right of the screen (figure 15). Move the cursor to the box and click on a square (pixel) that you wish to fill. You may go to the **COLOR** pallet and select other colors if needed.

To move to another area of the outline, click on the white border of the **MAGNIFY** box. The magnified area will change relative to the side of the box clicked on. Clicking on another area of the parish outline will also change the magnified area.

The **MAGNIFY** tool is a slow editing procedure, but the results are worth the effort. It is useful for creating details in graphic images.

An outline of each parish is available by sending $5.00, a formatted diskette, and an addressed disk mailer to:

Ross Williams
HC 65 BOX 6120
Florien, LA 71429

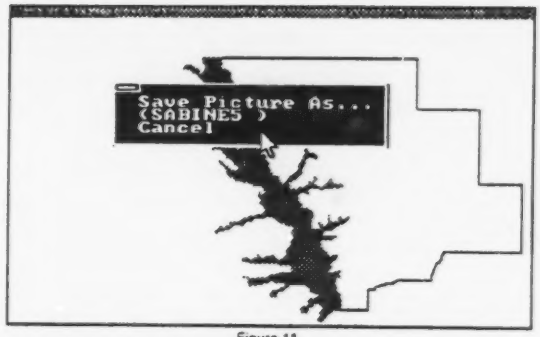

Figure 11

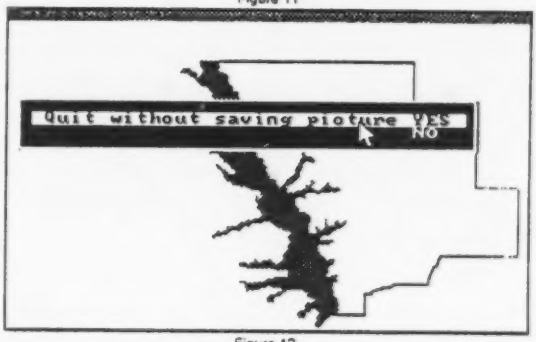

Figure 12

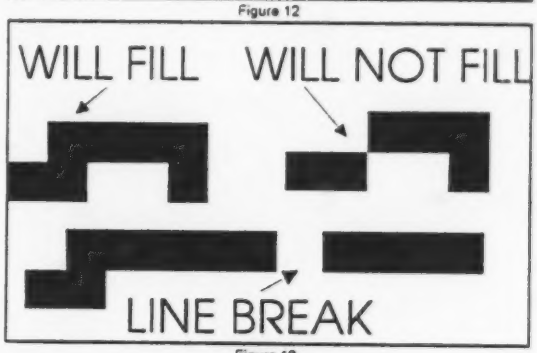

Figure 13

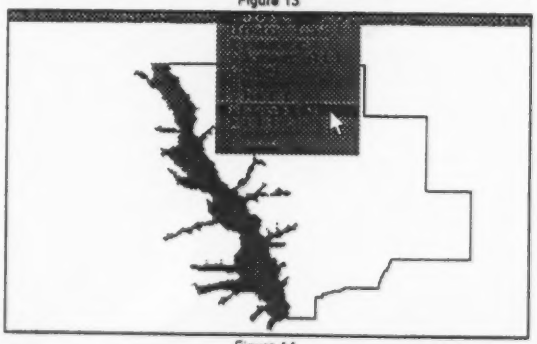
Figure 14

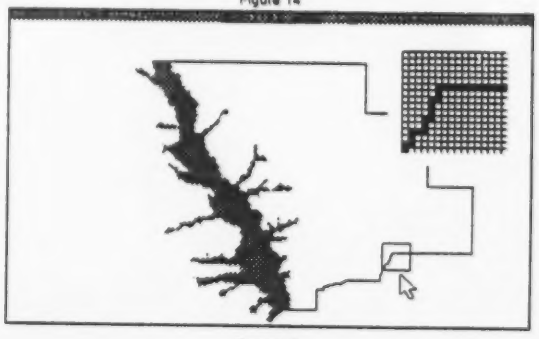
Figure 15

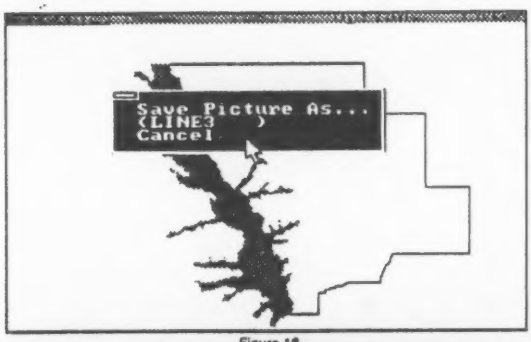

Figure 16

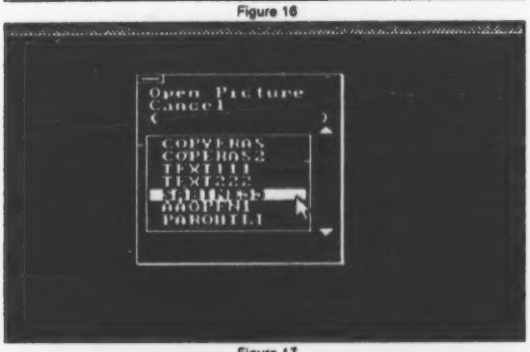

Figure 17

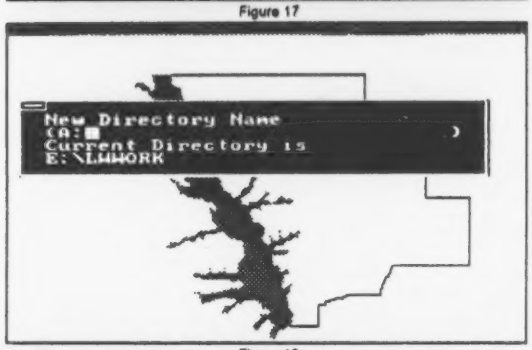

Figure 18

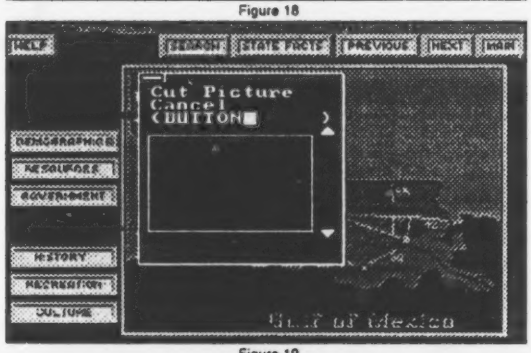

Figure 19

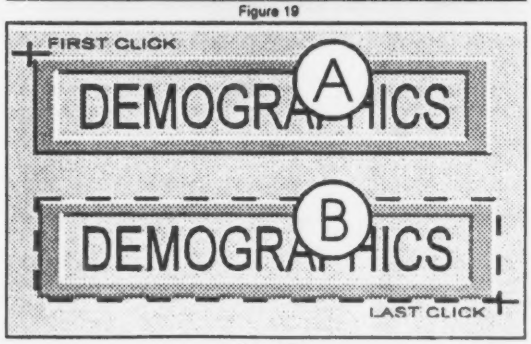

Figure 20

Creating button icons

Creating button icons utilizes several paint tools, **SET WIDTH**, **LINE**, **BOX**, **COPY**, **COLOR** and the **CUT** and **PASTE** command. The button icons are graphic images that will be activated until the on a LinkWay page. (see **Linking PAGES** on page 13)

Take time to look at a button found on a *Where in Louisiana* graphic file. Open a paint file a *Where in Louisiana*.

Opening a paint file from LWWORK

Use this option if *Where in Louisiana* has been copied to LWWORK. Click on **PICTURE** and **OPEN**. A dialogue box will appear asking if you wish to save the current file (figure 16). Click on the box in the upper left corner to save the current paint file under the default file name appearing in parenthesis. When the second dialogue box appears, click on a file from the list of paint files (figure 17). Click on the upper left corner of the box.

Opening a paint file from drive A

Before changing the default directory (LWWORK) to drive A, save the current file. Click on **PICTURE** and **QUIT**. A dialogue box appears asking if you wish to save, click on **YES**. Insert the *Where in Louisiana* disk in drive A. Click on **OPTIONS** and **DIRECTORY**. When a dialogue box appears (figure 18), type `A:` and click in the upper left corner of the box. Now click on **PICTURE** and **OPEN**. Click on any file appearing in the dialogue box. Click on the upper left corner of the box.

CUT and PASTE

Use the **CUT** command to save a paint item and **PASTE** the item into another paint file. To **CUT** a button from the current paint file:

1. (Skip this procedure if the *Where in Louisiana* file was opened from LWWORK and go to step 2.) If the current paint file was opened from a disk in drive A, click on **OPTIONS** and **DIRECTORY**. Type `C:\LWWORK` when the dialogue box appears. Click on the box in the upper left of the dialogue box. This changes the default directory to LWWORK.
2. Click on **PICTURE** and **CUT**. When the dialogue box appears type `BUTTON` and press **ENTER** (see figure 19). The cursor will change to a box. Move the box to the upper left corner of a button and click (figure 20-A). Drag the dotted frame to the lower right of the button and click (figure 20-B). It is possible to **CUT** any section of a paint file. You may choose to **CUT** each button or groups of buttons. Name each **CUT** BUTTON1, BUTTON2, etc.
3. Click on **PICTURE** and **QUIT**. When the dia-

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logue box appears, click on **NO**. Click on **PICTURE** and **OPEN**. When the dialogue box appears, click on your parish file. When the file appears on the screen click on **PICTURE** and **PASTE**. Click on BUTTON in the dialogue box. Move the frame to a location where you wish to paste the button and click.

Creating a BUTTON ICON

To create a button:

1. Click on **OPTIONS** and **SET WIDTH** (figure 21). A box with 3 rectangles appears. The top rectangle is for thin lines, the middle for medium line widths, and the bottom for thick lines. Click on the middle rectangle.
2. Click on **COLOR** and choose a light medium gray. Click on **DRAW** and **BOX**. Place the cursor in the upper left corner of where you wish to begin the button icon. Click and drag the cursor to the lower right of the area to be defined as a button and click (figure 22-A).
3. Click on **COLOR** and select a medium gray to create a shadow for the button. Click on **OPTIONS** and **SET WIDTH** and click on the top rectangle (thin line).
4. Click on **DRAW** and **LINE**. Place the cursor at the upper left corner of the button (touching but not on the light gray line) and click (figure 22-B). Drag down until the center of the cursor is one pixel below the left end of the button and double click. The second click is the begining of a second line across the bottom of the button. Click when the line is one pixel right of the lower right corner of the button. Repeat the procedure inside the rectangle for the shadow along the upper line and the right end (figure 22-C).
5. Click on **COLOR** and select a very light gray (not the same as the background). Draw lines along the top and down the right end of the button for high-lights (figure 22-D). Draw a line inside the left end and along the bottom to complete the high-lights (figure 22-E).

Follow the procedures for using **CUT** (page 6) to save the button. The button graphic may be used on subsequent paint files using the **PASTE** command.

Create a special paint file (scrap file) containing all the button icons. Name the paint file ICONS. Group, edit, or size the buttons then use **CUT** and **PASTE** to place the icon in a new paint file. Use the ICONS file to experiment with different paint tools.

Using the UNDO command

When an error is made using most LWPAINT tools (text, copy, fill, paste, box, etc.), click on **UNDO** (figure 23). **UNDO** will erase all editing from the last time a tool was selected.

Example: An error was made while using the **LINE** tool. Click on **TOOLS** and **UNDO** . All lines created from the last time **LINE** was selected will be erased. To avoid losing all lines, re-select the **LINE** tool often.

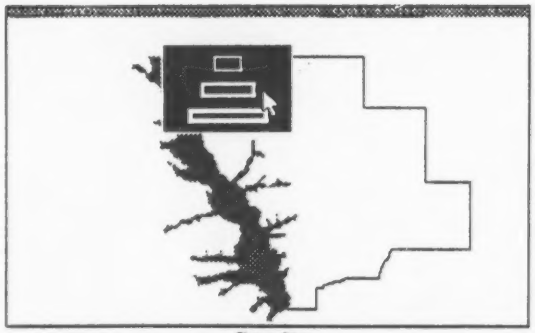

Figure 21

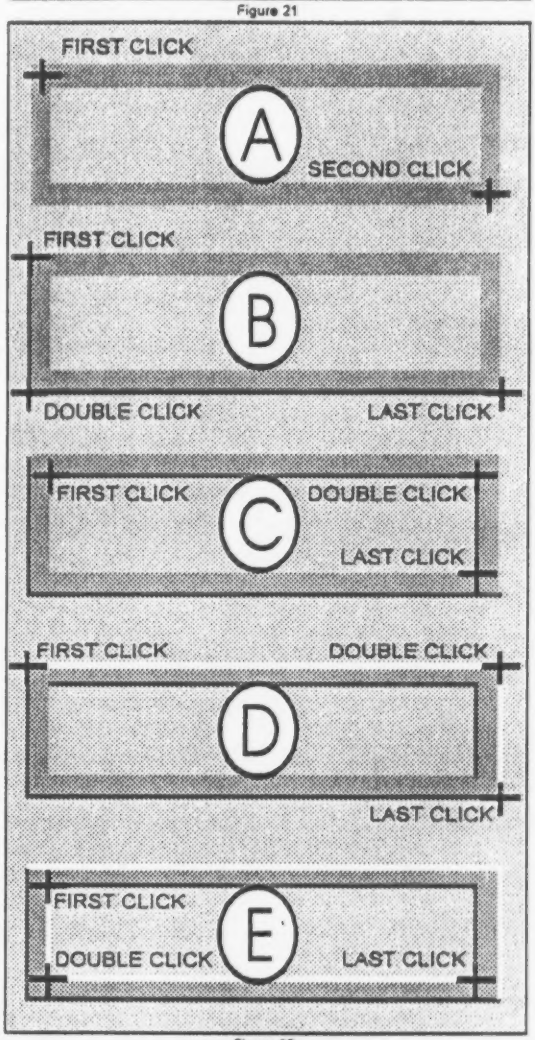

Figure 22

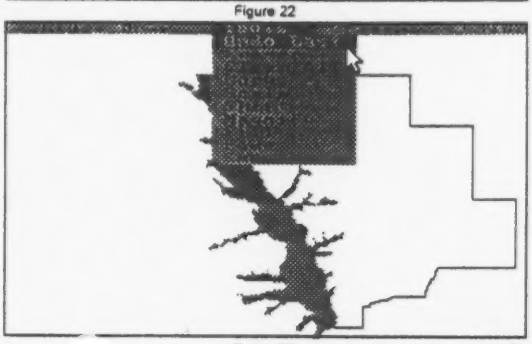

Figure 23

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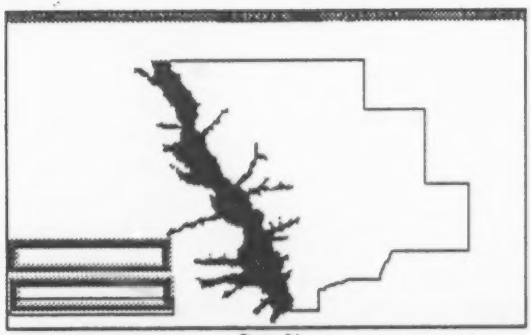

Figure 24

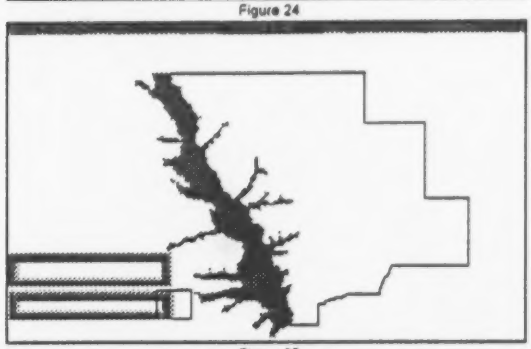

Figure 25

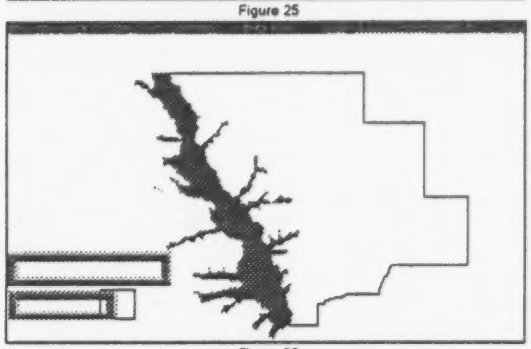

Figure 26

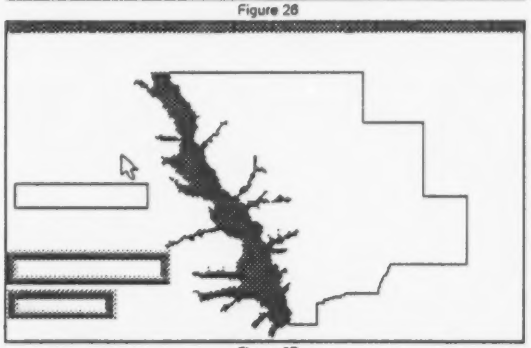

Figure 27

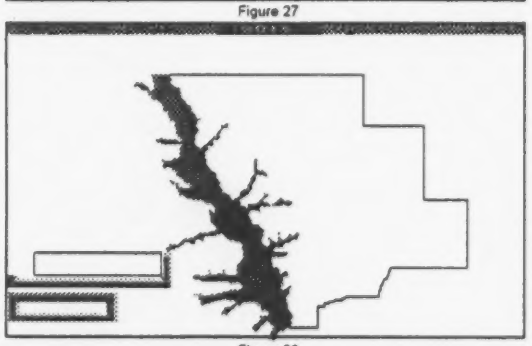

Figure 28

Using COPY

The COPY tool can be used to duplicate objects, move objects, resize objects, and as an eraser.

COPY and duplicate

To duplicate or clone a button icon:

1. Click on TOOLS and COPY. The cursor will change to a box.
2. Move the cursor to the upper left corner of the button icon and click once. Drag the frame to the lower right corner and click.
3. The cursor becomes a rectangle equal to the size of the copied button icon. Move the rectangle to a blank area of the screen and click. COPY may be used to move objects following the same procedures. Erase the copied object (see **COPY and erase** below).

Resize objects

To resize a button icon:

1. Click on TOOLS and COPY.
2. Move the cursor to the middle left end of the button (see figure 24) and click. Make certain the cursor is aligned with the end of the button.
3. Drag the frame to the lower right of the button. Include some background area below the button (see figure 24). The background area will be used to copy over excess area of the button.
4. Allign the left end of the rectagle with the left end of the button and move the rectangle up a couple of pixels and click. The button icon should become thinner. The procedure can be repeated to make the button thinner or used to enlarge the button.
5. Follow the same steps to shorten or lengthen the button icon (figure 25 and 26).

Use the CUT command (page 6) to save the two buttons.

COPY and erase

Although LWPAINT has an ERASE tool, using COPY is often a more effective eraser. To erase the larger button:

1. Click on TOOLS and COPY.
2. Copy an area of the background approximately equal to the size of the button to be earased (figure 27).
3. Move the rectangle over the button and click. Move the rectangle to cover any remaining part of the button and click.

The COPY tool provides options for any size or shape eraser. The BAR tool can also be used as an eraser. Click on COLOR select a color, click on DRAW and BAR. Move the cursor to an area and click. Drag the cursor to define the area and click.

Modifying the COLOR Pallet

Each LWPAINT file has a COLOR pallet with 256 available colors. Excluding the top two rows of colors, all of the colors on the pallet may be changed. There are actually 256,000 color options. To change a color:

1. Click on **OPTIONS** and **MIX COLOR**. The **COLOR** pallet appears.
2. Select a color near the bottom of the pallet. A dialogue box appears (figure 29). Each of the three primary light colors (Red, Green, and Blue) may be manipulated using the arrows above or below each color. The numerical values, at the bottom of the dialogue box, represent the intensity of each color. If **RGB** is equal to 0,0,0 the color is black. If **RGB** is 63,63,63 the color is white.
3. Click on the arrow above **R**. The number below **R** should increase by 1. Continue to click on the arrow above **R**. Notice the box displaying the color. Change **G** and **B** to see the manycolor possibilities. Click on the box in the upper left corner of the dialogue box when you are satisfied with the new color.

Click on **COLOR** to see the new color.

The **MIX COLOR** tool may be used to identify custom colors and replicated in related paint files. Record the number value of the color on the storyboard or flowchart used for planning each LinkWay page. This provides a method for duplicating colors on subsequent files, such as backgrounds.

WARNING: Changing colors after a file has been completed will change the colors used in the graphic.

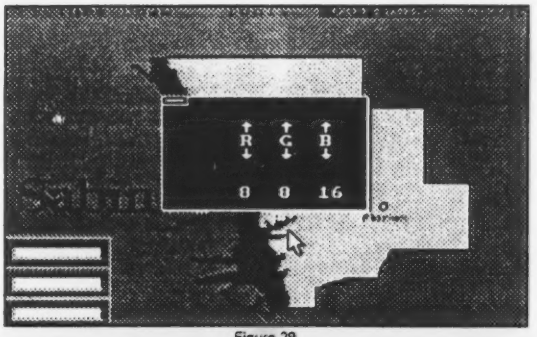

Figure 29

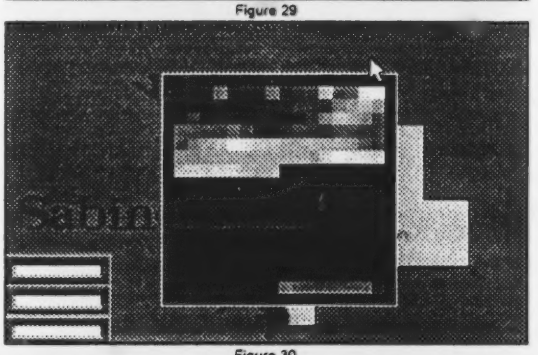
Figure 30

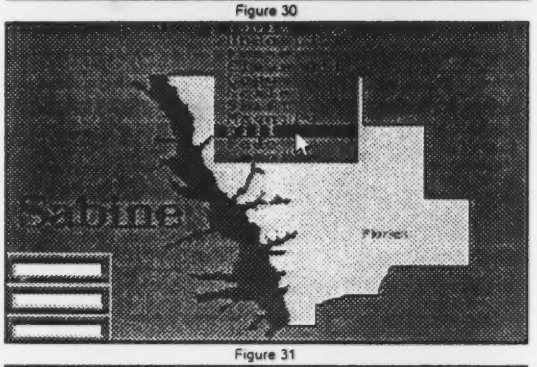
Figure 31

Create a custom pallet with MAKE FADE

Before using this option, save the current file and click on **PICTURE** and **NEW** to create a new file. Name the file FADETEST.

Each paint file has a distinctive pallet associated with it (pallet files have a .p13 file extension). The following procedures may be used to create a custom pallet for the file FADETEST. Use **COLOR** and the **BAR** tool to draw several different colored boxes on the screen before executing the following steps.

1. Click on **OPTIONS** and **MIX COLOR**. A pallet appears (see figure 30).
2. Select the color on the left end of the bottom row. When the dialogue box appears change the values to 63,0,0 (red) and click on the box in the upper left corner. Again click on **OPTIONS** and **MIX COLOR**. Select the color on the right end of the bottom row. Change the values to 0,0,63 (blue).
3. Click on **OPTIONS** and **MAKE FADE**. A pallet appears (see figure 30).
4. The bottom row should be red on the left and blue on the right. Click on red (note the message at the top

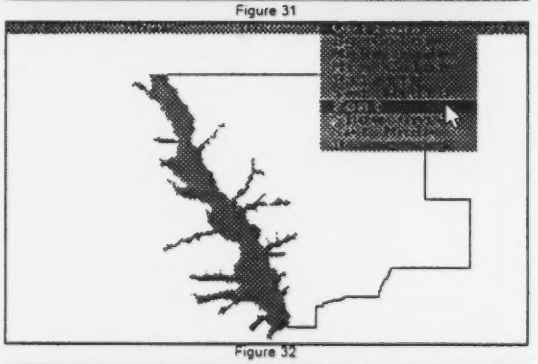
Figure 32

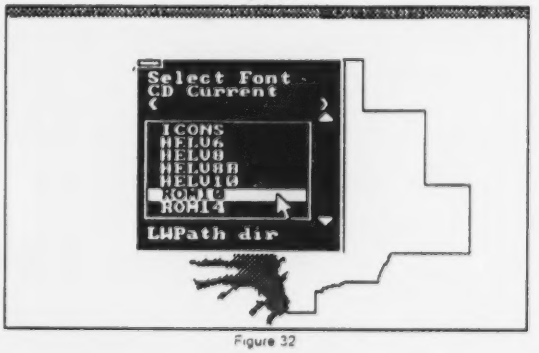

Figure 32

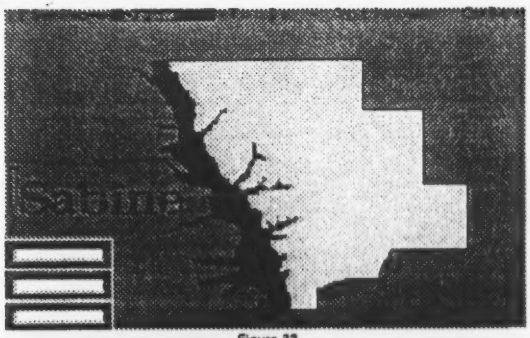

Figure 33

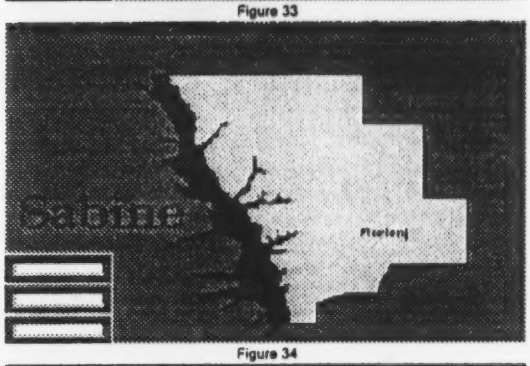

Figure 34

Topics for Expanding Where in Louisiana

The following list provides topics for research to expand *Where in Louisiana*. Each topic may be incorporated into STATE, REGION, or PARISH studies.

1. Natural Resources
2. Places to See in Louisiana
3. Famous People of Louisiana
4. Early Louisiana History
5. The Political History of Louisiana
6. Ethnic Groups
7. Demographics
8. Agriculture
9. Industry
10. Sports
11. Food
12. Customs
13. Music
14. Religion
15. Wildlife
16. Folklore
17. Art
18. Literature
19. Recreation
20. Architecture
21. Customs

The Northwestern State University, Education Technology Center would like a copy of class projects related to *Where in Louisiana*. When sufficient information covers the scope of Louisiana Studies, a CD-ROM will be produced and made available. For more information contact Bob Gillan at (318) 357-5091. Copies of *Where in Lousiana* are available. Send a formated diskette and self addressed envelope/ mailer to:

Education Technology Center
Teacher Education Bldg, C247
Northwestern State University
Natchitoches, LA. 71497

of the screen). Click on blue. Now click on the middle of the bottom row. The row should change to a range of violets (purple).

This procedure can be repeated for each row to create a custom pallet. Remember, only use this option before using lines or fills.

FILLS

The **FILL** tool was used to fill the background before drawing the parish outline. Changing the black background to a light medium gray made it easier to trace the outline. It is time to choose a background color and a color for the area inside the parish.

1. Click on **COLOR** and select a color for the background. Dark cool colors (dark blue, gray, or violets) do not over power foreground objects. All *Where in Louisiana* graphics have a consistant background color (R=17, G=19, and B=31) to provide continuity. Use **MIX COLOR** to make a custom color using the above color values for the background.
2. Click on **TOOLS** and **FILL** (figure 31). Move the cursor to the background and click. The background changes to the selected color. Choose an appropriate color and repeat the process for the area inside the parish outline.

Before adding text, use the **CIRCLE** tool to identify the location of towns. Select a color and click on **TOOLS** and **CIRCLE**. Draw a small circle and **FILL** with a contrasting color (see figure 35). Use the **COPY** tool to place a circle at each town/city site. Lakes and rivers may also be added using the **PENCIL** tool.

TEXT

LWPAINT provides a number of typefaces (FONTS) for creating text. The working directory should be LWWORK.

1. Click on **OPTIONS** and **FONTS**. A dialogue box appears (see figure 32).
2. Click on a large font (12, 14, 24) for the parish name. Close the **FONT** dialogue box.
3. Click on **COLOR** and select a dark color. This color will become the text shadow.
4. Click on **DRAW** and **TEXT**. The cursor will change to a vertical rectangle (see figure 33).
5. Move the cursor to the area where the text will be placed and click. Type the name of the parish and click once. Move the text (parish name) to the proper position and click.
6. Open the **COLOR** pallet and select a bright color.
7. Move the cursor near the previous text and click. Type the parish name again and click once.
9. Move the text so that it offsets the shadow and click.

Change the FONT to HELV 6 to type text into each button. This may be done on the ICON page prior to pasting buttons onto the parish page.

Click on **PICTURE** and **EXIT LWPAINT**.

The tools used to create and edit the parish outline are considered basic to any graphic program. There are other tools that should be examined, but becoming familiar with the capabilities of the basic LWPAINT commands and tools will soon make a pro out of a novice. Practice is perhaps the most essential element if one is to become proficient with LinkWay or any other program.

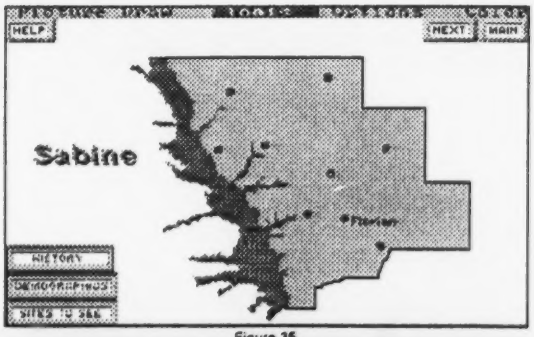

Figure 35

Working with LinkWay

It's time to create a **FOLDER**, and **PAGES**. After placing the parish on a **PAGE**, buttons will link the page to the *Where in Louisiana* model and other **PAGES** related to the parish.

Create a FOLDER

The **FOLDER** is the file containing pages with the parish map and other relevant parish information. To create a **FOLDER**:

Click on **FOLDER** and **NEW**. A dialogue box appears requesting a **FOLDER** name (see figure 36). Type the first eight characters of the parish name (SABINE, NATCHITO, etc.). Click on the box in the upper left corner.

Note the **STATUS** line in the lower left corner (see figure 37). The name of the **FOLDER** and the word Base appears. The first page of a folder is called the Base page. The Base page will not be used in this folder. Refer to the documentation for more information about the base page.

Figure 36

Figure 37

Create a PAGE

Create a **PAGE** by clicking on **PAGE** and **NEW** (see figure 38). Note the **STATUS** in the lower left corner (see figure 39). It should display the **FOLDER** name and **Id=1**. Do not create any more **PAGES** until you are ready to incorporate them into the **FOLDER**.

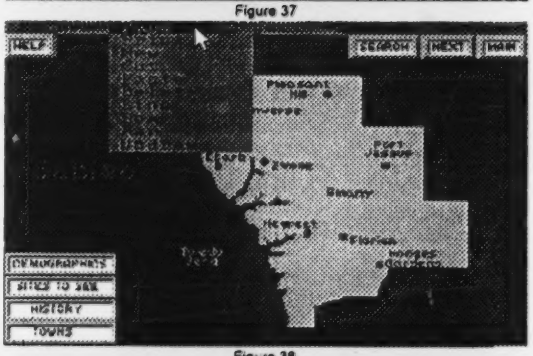

Figure 38

Placing the parish graphic on PAGE Id=1

1. Click on **OBJECT** and **NEW**. A dialogue box appears (see figure 40). Click on **PICTURE**.
2. The cursor changes to a small box. Move the cursor to the upper left corner of the screen and click once.
3. Drag the box (frame) to the lower right corner of the screen and click (see figure 41). The frame defines the area that will display the parish graphic. All **OBJECTS** (BUTTONS, PICTURES, and FIELDS) are located and defined in the same manner. Think of the frame as a window that will allow the parish graphic file to show through the page.
4. A dialogue box appears requesting a name for

Figure 39

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Figure 40

Figure 41

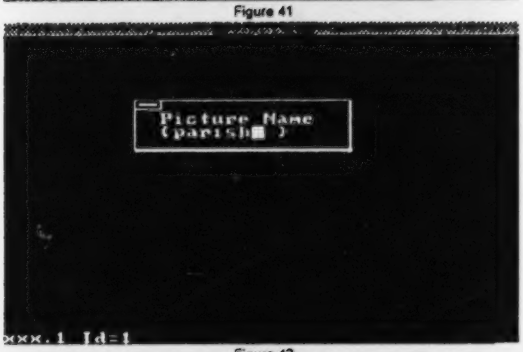

Figure 42

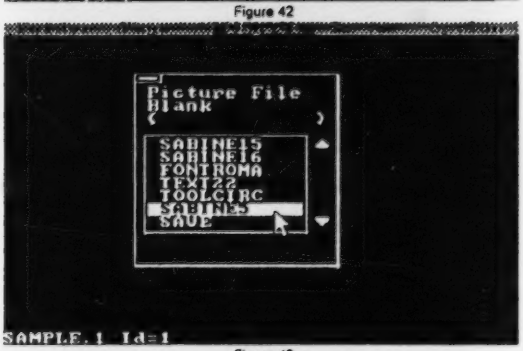

Figure 43

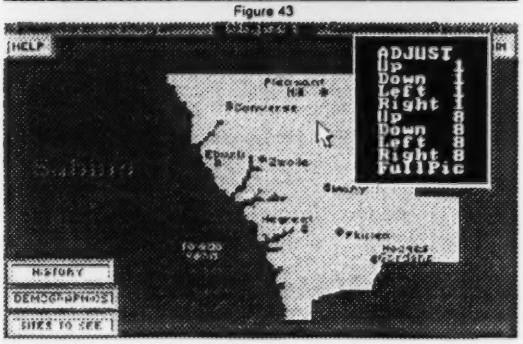

Figure 44

the picture (see figure 42). Although any name will do, type PAGE1. Click in the small box in the upper left of the dialogue box.

5. Another dialogue box appears listing all available paint files (see figure 43). Click on your parish paint file and click in the upper left corner of the dialogue box.

NOTE: If the parish paint file is on a floppy disk, follow the procedures on page 6, **Opening a paint file from drive A.** These procedures may be used to save your **FOLDER** to drive A. If the new default directory is drive A, click on **FOLDER** and **SAVE**. The **FOLDER** will be saved to the disk in drive A. If **FONT** files and **TOOLS** do not appear while working from drive A, change the directory to C:\LWWORK.

It may be necessary to copy the paint files from the floppy disk to the LWWORK directory. See DOS on page 15.

6. The parish graphic appears on the screen (see figure 44). The **ADJUST** dialogue box also appears. Since the picture fills the screen the options for moving/adjusting the picture will not be used. The **ADJUST** options are for smaller graphics and may be used to adjust the picture to fit a small **PICTURE** frame.

The Most Exciting Project of the Year

A project for incorporating your parish with the *Where in Louisiana* model can provide meaningful learning activities for your students. From research, group learning, art, organizing information, to computer literacy skills, students will use and develop valuable learning skills. The relevance of this project will quickly become evident but the success will largely depend on planning.

If you are a new (computer) user, there will be technology problems that will test your endurance and patience. Share the problems with your students and together, find solutions. A letter or phone call or involving a fellow teacher or technically inclined student may be needed to find the answer. It's called problem solving.

As you become more proficient with LinkWay, other classroom applications will become evident. Share with other teachers and schools within your local system. An in depth parish program in conjunction with the Where in Louisiana model could be initiated.

What ever direction is taken, plan the project using storyboards and flow charts (see pages 23 and 24). The student manual contains an example of a storyboard for the parish page.

As a new technique is discovered, write the process on the storyboard. Take time to read the appendix, several helpful hints are offered. Do not hesitate to experiment and try a new idea.

Organize teams or groups to be responsible for each phase of the project. The value of a LinkWay project will become evident as you realize how quickly students will adapt, solve problems, gather information and become competent users of the program.

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Create BUTTONS

The power of LinkWay is the ability to link information and pages through **BUTTONS** without writing code. The authoring ability of LinkWay provides teachers and students tools to use computer technology to create presentations and tutorials that have been available only to programmers.

Linking PAGES

Although **PAGE Id=2** has not been created, the first **BUTTON** will link page 1 with page 2.

1. Click on **OBJECT** and **NEW**. An **OBJECT** dialogue box appears (figure 45).
2. Click on **BUTTON**. The cursor changes to a box.
3. Move the cursor to the upper left corner of the **NEXT** button icon and click once.
4. Drag the cursor/frame to the lower right corner of the **BUTTON** and click (see figure 46). The button location has been defined.
5. A **BUTTON Type** dialogue box appears (see figure 47). There are eight types of **BUTTONS**. Although the **GO** button options may be used, the **LINK** button will be used. You may encounter problems if the **GO** button is not used properly. Click on **LINK**.
6. A **BUTTON Name** dialogue box appears (figure 48). Type PAGE2 since the **BUTTON** links page 1 with page 2.
7. An icon dialogue box appears providing **BUTTON** icon options (figure 49). Along the top are optional icons. Click on the arrows at the lower right to view more options. Another option can be seen in the lower left corner. The **BUTTON** name, PAGE1 is displayed. Because the **NEXT** and all other **BUTTONS** were created in LWPAINT the optional icons will not be used. Click on **NONE**.
8. The **LINK Information** dialogue box appears (figure 50). This dialogue box provides the address of the page being linked. Type the name of the parish **FOLDER**. Press TAB and type 2. These instructions told the linking **BUTTON** to go to page 2 of the current parish **FOLDER** when the button is activated with a mouse click.

Create page 2 to see if the **NEXT BUTTON** if functional.

1. Click on **PAGE** and **NEW**. The status in the lower left corner should display the **FOLDER** name and **Id=2**.
2. To return to page 1 click on **GO TO** and **FIRST PAGE**.
3. To activate the **BUTTON** (NEXT), double click on the button. The **ACCESS LEVEL** is currently in **FORMAT** mode. When the **ACCESS** is in **READ** mode, only one click is necessary to activate a button. The current page should be Id=2. Return to page 1.

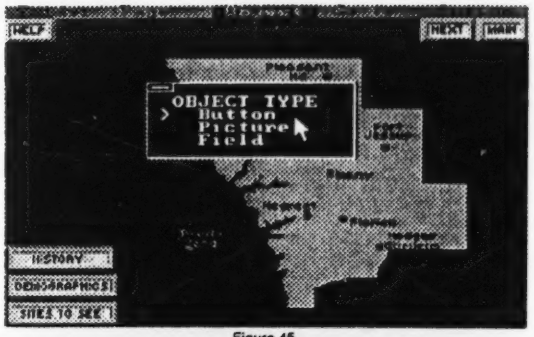

Figure 45

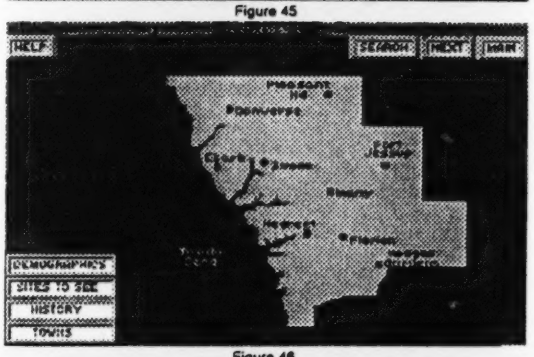

Figure 46

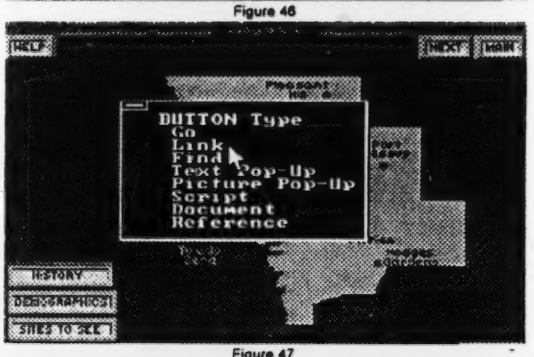

Figure 47

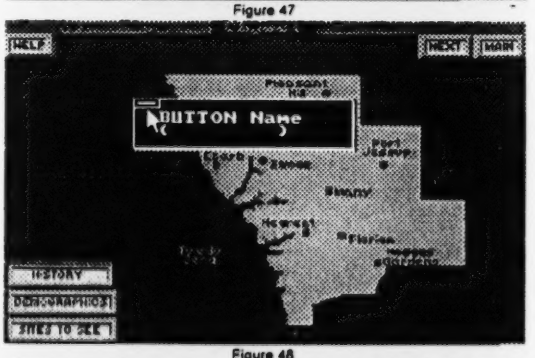

Figure 48

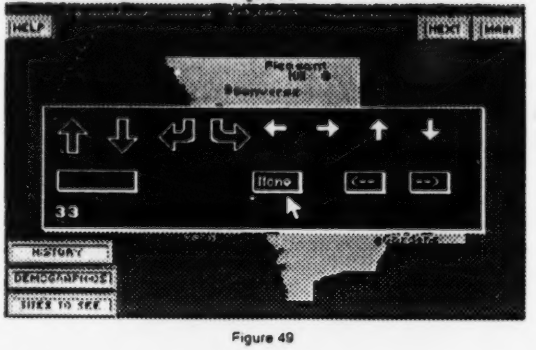

Figure 49

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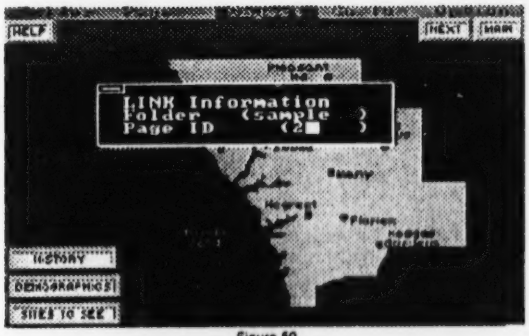

Figure 50

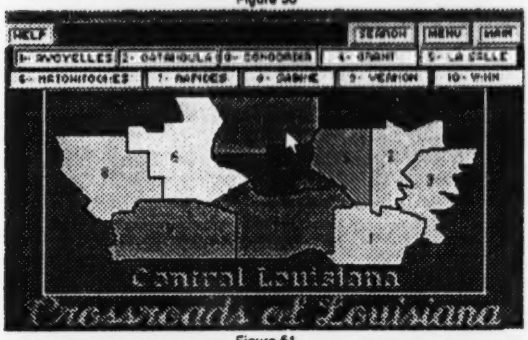

Figure 51

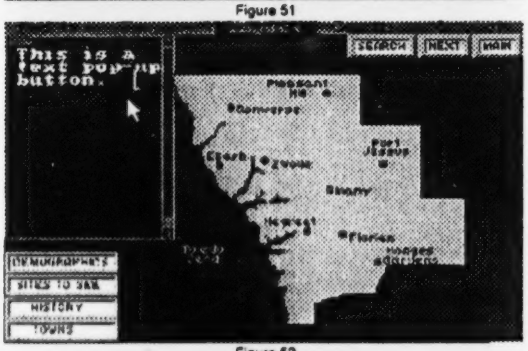

Figure 52

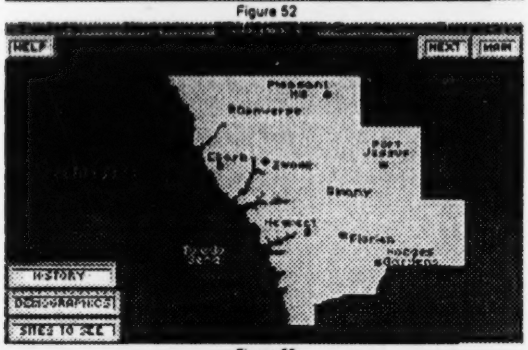

Figure 53

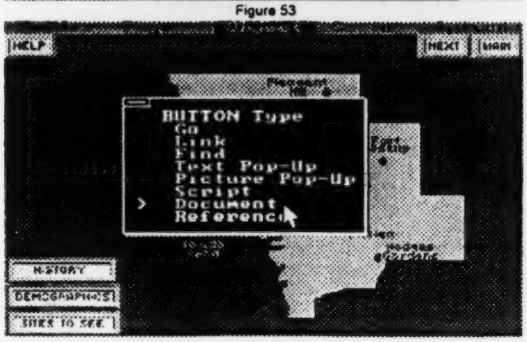

Figure 54

Linking FOLDERS

The next step will link your parish **FOLDER** with the *Where in Louisiana* **FOLDERS** through the MAIN **BUTTON**. The steps are identical to linking pages, with one exception, when the **Link Information** dialogue box appears (see figure 50) the **Folder** name must be the name of the **FOLDER** that is being linked. It is also important to enter the correct page number.

This procedure will link your parish **FOLDER** with the correct regional menu of *Where in Louisiana* if all files (*Where in Louisiana* and your parish graphic and **FOLDER** files) are in the same directory, **LWWORK**.

If your parish is:

1. North Louisiana, the **FOLDER** is AFUSALA and the page number is 4.
2. Central Louisiana (see figure 51), the **FOLDER** is AFUSALA and the page number is 6.
3. Acadiana Parishes, the **FOLDER** is ACACDANA and the page number is 1.
4. Mississippi River Parishes, the **FOLDER** is AMMISSPA and the page number is 1.
5. Florida Parishes, the **FOLDER** is AGFLORID and the page number is 1.

Double click on the MAIN **BUTTON**. The regional menu should appear. A **BUTTON** is needed to link the regional menu with your parish. (The **ACCESS LEVEL** may be in **READ** only. See **Changing ACCESS LEVEL** on page 16.)

Locate the button icon with your parish name and follow the same procedures until the Link Information dialogue box appears. Type your parish **FOLDER** name and enter 1 for page Id. Double click on the **BUTTON** to return to the parish **FOLDER**.

Create a HELP BUTTON

1. Click on **OBJECT** and **NEW**. When the **OBJECT TYPE** dialogue box appears click on **BUTTON**.
2. Move the cursor (box) to the upper left corner of the HELP button and click once. Drag the frame (see figure 52) to define about one fifth of the screen.
3. Click on **Text Pop-UP** in the **BUTTON Type** dialogue box (see figure 47).
4. A text pop-up box will appear. Type the help instructions. The instructions may be revised or edited later.

Create a DOCUMENT BUTTON

1. Click on **OBJECT** and **NEW**. When the **OBJECT TYPE** dialogue box appears click on **BUTTON**.
2. Move the cursor (box) to the upper left corner of the Demographic button and click once. Drag the frame (see figure 53) to the lower right corner of the button.

3. Click on **Document** in the BUTTON Type dialogue box (see figure 54).

4. A dialogue box appears requesting a name of the text file. There are two options.

A. Type a name (up to eight characters) and a .TXT file extension. (EXAMPLE: DEMOGRAF.TXT) Click on the box in the upper left corner of the dialogue box.

B. A document file may be created with any word processor. The file must be saved in ASCII file format. The eight character file name should include a .TXT file extension. Copy the file to the LWWORK directory. When the dialogue box appears (figure 55) type the full name of the file.

5. A screen appears with basic word processing features. Press the F1 function key to view editing commands. If you created a new file, text may be entered now or at another time. If the file was created in a word processor the text will be visible with options for editing. Press F3 to return to the parish page.

Steps for creating a **REFERENCE BUTTON** are on page. **REFERENCE BUTTONS** incorporate hypertext (Click on the SEARCH button on the second page of Where in Louisiana to see an example of this option).

Where in Louisiana contains all **Runtime** (see Runtime on page 22) files needed to make it a stand alone software package. It does not require LinkWay to be present to run the program. Now that your parish is a part of *Where in Louisiana* your will need to:

1. Click on **OPTION** and **STATUS**. This command turns the **STATUS** line off.
2. Click on **OPTION** and **MENU BAR**. This turns off the **MENU BAR**.
3. Click on the upper left corner of the screen. The **FOLDER** menu will appear (see figure 56). Click on **ACCESS LEVEL**. When the Access Level dialogue box appears click on **READ** (see figure 57). When the second dialogue box appears press **ENTER**. **ENTER** is the password. Any eight character word may be used, be sure to remember it.
4. Click on the MAIN **BUTTON**. Change the **ACCESS LEVEL** of the AFUSALA folder to **READ**.
5. Click on **FOLDER** and **EXIT LINKWAY**.

Copy LWWORK files to disk

To copy the *Where in Louisiana* file to a floppy disk.

1. Place a formatted diskette in drive A or B.
2. Type A: (or B:) and press **ENTER**.
3. Type COPY C:\LWWORK*.*

Make several copies, two for backup of the file and several to share with other teachers and schools. Let students make copyies for themselves. Don't forget to mail a copy to the NSU Technology Education Center (see page 10).

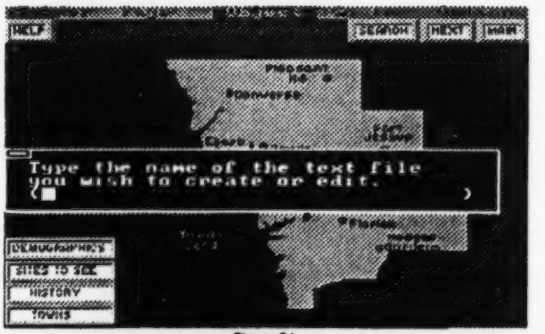

Figure 54

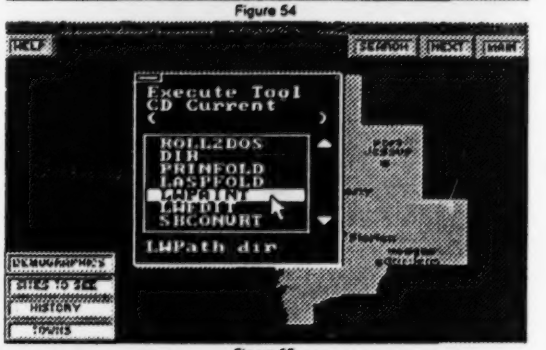

Figure 55

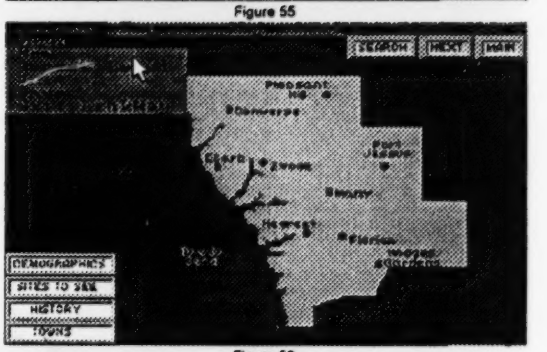

Figure 56

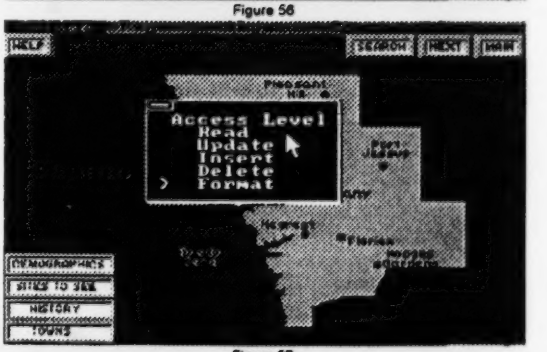

Figure 57

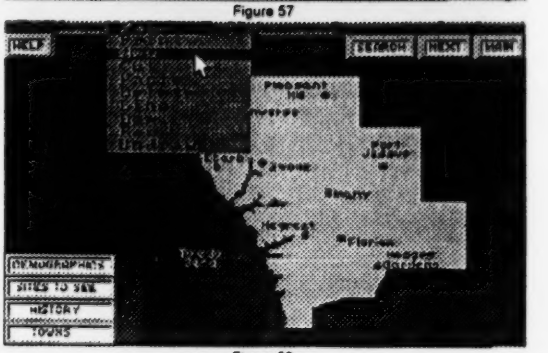

Figure 58

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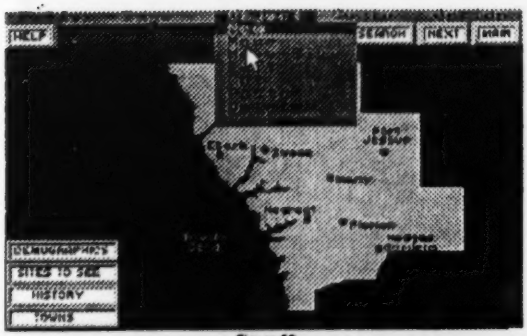

Figure 59

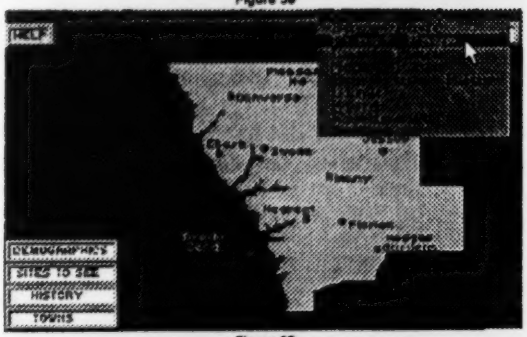

Figure 60

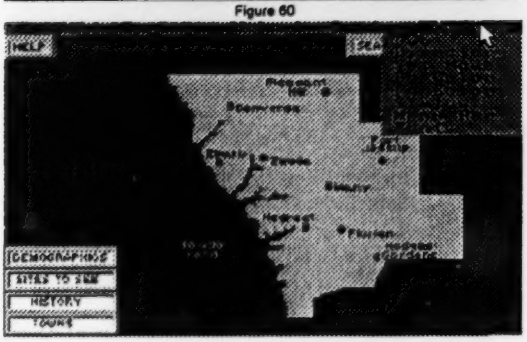

Figure 61

There are other options for creating a LinkWay page. The methods for incorporating your parish into *Where in Louisiana* utilizes LWPAINT as the primary means for creating graphics, button icons and text. There are options in LinkWay to create text (FIELDS) and button icons (see the LinkWay Tutorial) without using the paint program. These methods should be explored, but, the LinkWay text and button icons do not offer the visual effectiveness of a LWPAINT graphic.

There are several DON'TS that you should be aware of.

1. DON'T change the MODE while working in *Where in Louisiana*. Although other MODES are available, only the MCGA 256 MODE will run Where in Louisiana, the MODE it was created in.

2. DON'T change the BG color or the FG color. Your background and foreground colors were created in LWPAINT.

3. DON'T use the draw tools in LinkWay, use only the draw tools in LWPAINT to edit your files.

Other LinkWay Options

As you work with LinkWay you will discover special techniques and shortcuts to speed and enhance the development of presentations and tutorials. You will discover many ways that LinkWay can be integrated into the classroom. Students will begin using LinkWay to create reports and presentations. Advanced users will want to incorporate multimedia applications found in LinkWay Live.

There were several LinkWay options that have not been explained. **DOS**, **MOVE**, **MOVE + SIZE**, and **DELETE** are useful tools for editing LinkWay **FOLDERS**.

DOS

Click on **OPTION** and **DOS**. LinkWay will shell out to **DOS**. **DOS** commands are available if needed. Type `EXIT` to return to LinkWay.

MOVE

Each **BUTTON** and **PICTURE** is defined by a frame. With the **ACCESS LEVEL** in **FORMAT** mode, click once on a **BUTTON** or **PICTURE**. Note the dotted frame identifying the object. Click on **OBJECT** and **MOVE**. The cursor becomes the **OBJECT**. Move the **OBJECT** to any new location on the screen and click.

MOVE + SIZE

A **BUTTON** or **PICTURE** may be moved and resized using the **MOVE + SIZE** tool. With the **ACCESS LEVEL** in **FORMAT** mode, click once on a **BUTTON** or **PICTURE**. Note the dotted frame identifing the object. Click on **OBJECT** and **MOVE + SIZE**. The cursor changes to a box. Move the cursor to the upper left corner of the area where you wish to move and resize the object and click once. Drag the frame to the lower right of the area to redefine the area of the OBJECT.

DELETE

A **BUTTON** or **PICTURE** may deleted using the **DELETE** tool. With the **ACCESS LEVEL** in **FORMAT** mode, click once on a **BUTTON** or **PICTURE**. Note the dotted frame identifing the object. Click on **OBJECT** and **DELETE**. A dialogue box appears to make sure you wish to **DELETE** the object. Click on **YES**.

Although there are other tools and options, the options covered in this manual can be used to create affective LinkWay presentations, tutorials, and other classroom projects. The more time you can spend working with these options the more competent user you will become. Your efforts will be rewarded with the confidence and computer skills aquired. Of course, the greatest benefit will come from the excitment and the valuble learning experience reflected by your students.

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Appendix

HINTS

1. Use a word processor to create document files longer than one page. Short document files may be created using **LWEDIT**. Save the file in ASCII format and add .DOC to the file extension. Copy the file to **LWWORK**. When using a word processor, do not use formatting or style commands such as bold, center, underline, tab, etc.

2. Use a flow chart for planning a presentation. Make adjustments to the flow chart as changes are made during the process of creating the presentation. (See the flow chart for *Where in Louisiana* on page 23-24). Don't forget to include folder name, page names, and object names.

3. View other presentation programs to see colors, styles and graphics that effectively project a message. Television commercials and magazine ads are good sources of examples.

4. Never delete a page. Delete only the text or pictures placed on the page.

5. Do not create a new page until information and graphics are ready to be placed on the page.

6. Keep the BASE page clean. Avoid placing graphics. Every object placed on the BASE page will appear on all pages of the **FOLDER**. Note the low key graphic CLICK HERE on the *Where in Louisiana* BASE page used to indicate how to do to begin the program.

7. Explore *Where in Louisiana* to see how buttons are linked. Click on **ACCESS LEVEL** (see Access Level, page 15) in the **FOLDER** menu. In the **FORMAT** mode, click on the button once then click on OBJECT and **EDIT**.

8. Confident users of LinkWay should, consider upgrading to LinkWay Live. The latest version of LinkWay offers relatively simple tools for incorporating multimedia. Multimedia applications require up-to-date hardware that should be considered (sound cards, video adapters, CD-ROM, Video DISC players, etc.).

An excellent book by Annette Lamb is available for those wishing to explore the power of the LinkWay SCRIPTING language.

IBM LinkWay Plus LinkWay Live!
Authoring Tool for Presentations, Tutorials & Information Exploration
CAREER Publishing
910 N. Main St.
Orange, CA 92667
Phone: (800) 354-4041

LWPAINT HINTS

(*See Chapter 5 Creating Pictures in the LinkWay documentation*)

1. The **MIX COLOR** in the **OPTIONS** menu should be explored. Create a sample paint file before using this option. First make a backup copy of your work before applying this tool to a paint file.

2. Create a palette with new colors, then import the palette using the **PALETTE** command in the **OPTIONS** menu. Import the palette before you begin work on the picture. Try to keep a palette that is consistent for every picture file. Problems can occur when using the CUT option from one palette and then pasting to a picture with a different palette. Make certain there is backup copy before using this option.

3. Copy a portion of the background and copy over areas to erase or choose the same color from the palette and use the fill command. Select the color of the area to be erased and select **BAR** as another erase option. These tool options are more powerful than the ERASE tool.

4. Create a single picture of button icons. Use the **CUT** command to save single or groups of buttons. **PASTE** the icons to any paint file to save time, provide continuity, and to avoid re-drawing buttons.

5. Creating text in **LWPAINT** allows for more flexibility than using the text **FIELD** in the LinkWay program. This is true only for small strings of text. It works well for hot words/hyper text. Follow normal procedures for placing text in a graphic. After all text has been placed on the page, select a different color and type a word that is to be designated a hot word. Place the new colored word over the word in the text and click. Linking buttons, document buttons and text pop-up buttons can be placed over the word after the graphic has been place on a LinkWay **PAGE**.

7. Experiment with picture pop-up buttons. One example might be to create a smile face and frown face in paint. A response to a question could have the appropriate face appear.

8. IBM STORYBOARD and a shareware program, CSHOW, are ideal environments for executing screen captures. Each will accept several graphic file formats. STORYBOARD provides tools for editing and scaling pictures. LWPAINT has the ability to scale, but is limited when scaling large screen-captured graphics or for proportioned scales.

9. Use the line drawing tool to create a margin for multiple rows of text. Select an unused color and draw a line for the left text margin. After creating a row

of text, move the text where it is touching the line and click. When all rows of text have been placed, select the background color and fill the line.

10. You can trace a graphic by making a transparency of the outlined graphic. Tape the transparency to the monitor (NOT THE SCREEN) and use the PENCIL tool found under the DRAW menu and the mouse to trace. Keep the graphic simple, similar to a color book outline. When you finish tracing, use the fill tool to add color.

11. When pages call for small graphic items, create a paint file for odds and ins graphics (fill the page with graphics). You will save memory and easy access to the graphic items. Yes, you can access the graphics from any paint file or folder page.

12. The Cannon XAP shot camera is a handy tool for taking photos for a presentation. Don't forget the hand scanner for clip art. Those first grade drawings can be very exciting graphics. Importing XAP shot images requires using the screen capture program to convert the image to a LinkWay file format. The XAP shot requires a special card and software. Computer Eyes RT is the preferred interface and software to allow XAP shot images to be imported into the computer. Set the resolution to 256 color MCGA (320 X 200)

13. Create a custom background. Open the file for each new picture and save the file under a new picture name. Button icons could be included on the background to save time.

14. Avoid placing small items or to many items on a single graphic file. Cluttered pages are ineffective for conveying ideas.

15. Do not use more than two fonts on a page and more than three fonts in a presentation. Use the same font for all main headings. Keep button fonts consistent.

16. Take time to design unique button icons for special linking task. An example may be a page with a left corner turned down to indicate a button that returns to the previous page.

REFERENCE BUTTONS

A Reference button will display a document's text in a pop-up window. This is different from a Document button, which brings up a full-screen text editor containing the document. The Reference button is used to look up information. It can have highlighted words or "triggers," which act like a button within the text. Triggers are described in "Creating Documents for Reference Buttons" on page 4-88 in the LinkWay manual.

After you have completed the first steps for creating a Reference button (see "Creating New Buttons" on page 4-35 in the LinkWay manual), the Reference File Name window appears.

1. Enter the full path and file name of the file you want to reference and close the window. The maximum length of the path is l6 characters. An example follows: (c:\lwref\sci\tree)

2. If you want to view the reference file, click twice quickly on the button.

If the file you specified cannot be found, the following pop-up window will appear: Missing reference file.

If the file you specified is found, it will be displayed in the pop-up window. The user can scroll up and down and click on triggers you have specified.

3. Close the window.

CREATING DOCUMENTS FOR REFERENCE BUTTONS:

Triggers and color changes, in the next two sections, are called mark-ups for documents. They tell LinkWay how to display the text in Reference buttons.

You can create a document for a Reference button using any word processor. The LinkWay Text Editor (LWEdit) has a function that helps you format text for Reference buttons.

Triggers: A trigger is a highlighted word or phrase in a reference window. When you create a document to be used in a Reference button, you can include triggers. The user uses the trigger exactly like a button. The user clicks on the word or phrase, and the new information or action linked to the trigger is invoked.

GENERAL RULES FOR ALL TRIGGERS

All mark-ups must be enclosed in matching percentage sign (%) characters.

Multi-word entries can be triggers by connecting the words with underscores. The entire phrase must appear on one line in the text pop-up. The underscore will not be displayed.

FILENAME

Function Names a document to be displayed in the pop-up window.

Syntax `%F,n,fname%trigger`

Parameters F denotes a file name; tag n defines the color in which the trigger will be displayed; fname=file name of the document to be displayed; trigger=word to be highlighted in color n.

Rule None.

Example The `%F,9,Fang.DOC%fang` of a poisonous snake is like the pointed teeth of a carnivorous animal.

When the user clicks on fang, the document FANG.DOC will be displayed.

Mode	Number of Colors	Resolution	Type of System
CGA	4 (320x200)	Medium	IBM PersonalComputers (PCs) with graphics displays; IBM Personal System/2 (PS/2)
EGA	16 (640x350)	High	IBM PCs with Enhanced Graphics Adapters and displays and 128 KB of EGA memory; PS/2 models 25-286 and higher
MCGA 256	256	Medium (320x200)	All PS/2 models
MCGA mono	2	High (640x480)	All PS/2 models
VGA	16 (640x480)	High	PS/2 models 25-286 and higherDisplay Modes

Extension and Description of LinkWay Files

.BAT	Batch file to start LinkWay
.BIN	Binary subroutine file
.BIT	Bitmap
.COM	LinkWay executable file
.EXE	LinkWay executable file
.LFN	Font or icon file
.LWC	Folder file in CGA format
.LWE	Folder file in EGA format
.LWH	Folder file in MCGA highresolution monochrome format
.LWM	Folder file in MCGA 256 color format
.LWV	Folder file in VGA format
.P10	Palette file in EGA format
.P12	Palette file in VGA format
.P13	Palette file in MCGA 256 color format
.PCC	Picture file in CGA format
.PCE	Picture file in EGA format
.PCH	Picture file in MCGA high-resolution monochrome format
.PCM	Picture file in MCGA 256 color format
.PCV	Picture file in VGA format
.PG	Cut page file for pasting
.OB	Cut object file for pasting or executing
.DOC	Document files
.REF	Reference files

Note: The extensions .DOC and .REF are recommended but not required.

LWCONVRT is a LinkWay program that will convert LinkWay files to PIC file format using StoryBoard. Activate the program through TOOLS in LWPaint or change to the LinkWay directory and type LWCONVRT. The window prompts you to type the name of the LWPaint file and the path to StoryBoard. StoryBoard is an IBM program that compliments LinkWay in performing screen captures and allows you to convert LinkWay files to PIC files that can then be converted to other file formats.

GRAPHICS

Creating an impressive presentation/tutorial demands powerful graphics to communicate your idea visually. LWPaint is the medium for creating and editing presentation graphics. You may choose to create the graphic using only LWPaint, but, there are other options. Before exploring these options, understand that the graphic image must be in a LinkWay file format and compatible with the resolution mode your system supports.

Our choice of mode (resolution) is MCGA 256 (320 x 200). Graphic files not compatible with LWPaint must be converted to the proper file format through a program that is one of LinkWay's executable files, LWCaptur.

Sources of graphics can vary from:

1. Scanned images
2. Graphic images created in other paint and draw programs
3. Clip art (created in the file format of paint and draw programs)
4. Digitizers such as the Cannon Xap Shot camera
5. Images from CD-ROM or Laser Disc.

In each case, images must be converted to a file format with the PCM file extension. LWCaptur literally captures a screen within another program, prompting the user to give the file a name and saving the capture in the PCM format and the accompanying P13 palette file. These files can be copied to the LWWORK directory or to a data disk. **NOTE:** *Always delete the files from the directory of the paint program where you performed the screen capture.*

LinkWay is a DOS application. LWCaptur will execute only in the DOS environment, not in WINDOWS. For Microsoft Windows users that have the powerful graphic programs available in that environment, there is the question of how to import a graphic file into LinkWay. There is always an answer but it may require steps and additional software. The following procedures are some possible answers.

Some of the WINDOWS graphic applications that can be of benefit for exporting files are ALDUS PhotoStyler, CorelDRAW, and Hijaak. There are others but these three offer the most options for changing file formats.

The choice for accepting scanned images, editing, and resizing images is PhotoStyler. All scanned and XAP shot images in *Where in Louisiana* were resized and exported from PhotoStyler. CorelDRAW is best suited for creating images. Many of the *Where in Louisiana* images were created in CorelDRAW. Hijaak is a program that can convert almost any file to other file formats.

TIF is a standard scanned and XAP shot image

GUIDE TO GRAPHIC FILE FORMATS

Extension	Name	Type*	Notes
CAL	CALS	R	Government Standard
CDR	CorelDRAW	V	Native format for CorelDRAW
CGM	Metafile	V & R	Rarely includes raster bitmaps
CUT	Dr. Halo	R	Palette stored in PAL file
CRW	Designer	V	Native format for Micrografx Designer
DXF	AutoCAD	V	Used mainly for CAD drawings
EPS	Encapsulated Postscript	V & R	Usually includes a raster preview
GED	Arts & Letters Graphics Editor	V	Native format for Arts and Letters
GEM	GEM Metafile	V	Either 16 or 16 million colors
GIF	**CompuServe**	**R**	**Highly compressed**
IFF	Amiga ILBM	R	Used by Deluxe Paint
IMG	GEM Image	R	Native raster format for GEM
MAC	MacPaint	R	Popular Macintosh format
P10	Tektronic Plot 10	V	Highly-compressed draw format
PCL	HP LaserJet (also HPCL)	R	Includes soft-font support
PCT	Mac PICT	V & R	Popular raster format on Mac
PCX	**PC Paintbrush**	**R**	**Maximum of 256 colors**
PIC	**Lotus**	**V**	**Modeled on plotter technology**
SDW	Ami Draw	V	Used by Ami Pro 2.0
TGA	Targa	R	Includes 32-color format
TIF	**TIFF**	**R**	**Popular scanner format**
WMF	Widnows Metafile	Mostly V	Limited to 64K
WPG	WordPerfect	R or V	Can't be both at same time.

* R=Raster; V=Vector Bold file extensions are the most common formats use in screen captures.

file format. Use Hijaak or PhotoStyler to export the file in a TGA (Targa) format. Import the file into CSHOW,a shareware DOS application, for screen captures. IBM STORYBOARD, a DOS application, also supports several file formats (PCX, TIF, BMP,).

A sizing problem occurs when files generated in the higher resolutions of WINDOWS applications are exported and captured for LinkWay, a low resolution application. PhotoStyler is the choice for resizing. You may have to experiment with the resampling to determine an appropriate image size.

For advanced users and particular LinkWay Live users, AutoDesk Animator provides the capability of generating .FLI files (Animator is a full feature animation program). The .FLI files may be incorporated into a LinkWay live presentation. The Computer Eyes RT graphics card and software provide the most economical method of capturing VHS for motion video. Computer Eyes RT can capture and save the video in a LinkWay Live video format.

If you discover a technique or application that is applicable to LinkWay, mail it to or call Bob Gillan or Ross Williams. The authors will make sure the idea is shared with others LinkWay users. You will find a mailing address on page 10.

GRAPHIC TERMS

METAFILE. A class of graphics file formats that can accommodate both raster and vector information.
PIXEL. Short for picture element. One of the many thousands of dots that make up a computer graphic. These dots are arranged in a grid of vertical and horizontal lines. When viewed as a group, they can form a recognizable image.
RASTER. A method of coding and storing a graphics image as a pattern of dots (Also known as bitmap).
RESOLUTION. The number of dots or pixels on the screen. The more pixels the sharper the image.
24-BIT COLOR. A method of storing and displaying computer-based graphics that allows more than 16 million colors to be shown at the same time (Also known as true color).
VECTOR. A method of coding and storing a graphics image as straight lines.

LWCaptur

LWCaptur is a LinkWay program that formats graphics from other sources to files LInkWay can use in picture objects and Picture Pop-up buttons. You can use LWCaptur to "capture" a picture from any application program, graphics package, picture scanner, or any software which displays a picture on the screen. Then LWCaptur saves the picture in the appropriate file format for display in a LinkWayfolder. Many of the pictures you display on your monitor can be incorporated into LinkWay this way.

LWCaptur is a program that gets loaded into your computer's memory and stays there until you remove it or turn off your computer.

Starting LWCaptur

See "Getting Started" on page 2-6 to load LWCaptur into your computer's memory. When it has been loaded, the following message will appear:

```
LWCapture installed.
```

Once LWCaptur has been installed, it is ready to be used at any time.

NOTE: If you want to capture a picture in the EGA graphics mode on a PC, PC XT, or PC AT, you must first perform one step before starting LWCaptur. At the DOS prompt, type eqapal and press **Enter**.

Capturing Screens with LWCaptur

After you have started LWCaptur, you can capture screens from another program following these steps:

1 At the DOS prompt, load the program containing the screen you want to capture. This could be another graphics program or images from a picture scanner.

Note: LwCaptur may be hindered in the following circumstances: If you are using a program that uses the **Shift+PrintScr** combination, LWCaptur may not work. If you are using PC/Paintbrush, the FRIEZE program will deactivate LWCaptur. Some programs use nonstandard ways of displaying pictures or setting palettes. These may not work correctly with LWCaptur.

2 When the picture you want to capture is on the screen, press **Shift + PrtScr** to capture it.

3 A prompt appears on the top line displaying a default file name for the captured picture. If you like, you may type a new name for the picture file. Then press Enter. If your program uses a mouse, do not move the mouse while the capture is taking place.

4 The picture is saved in the current directory. The prompt at the top of your screen disappears and you can continue using the program. You can capture as many pictures as you like. Each will be given a different default file name. After capturing pictures in the MCGA 256 graphics mode, you should use the LWPalett utility described on page 5-57 in the LinkWay manual.

The picture will be saved in a file with an extension which indicates the graphics mode of the picture. A palette file that contains information about the color palette will also be saved for pictures in EGA, VGA, and MCGA 256 graphics modes.

If a picture was stored in a file named SAMPLE.PCM, then the associate palette would be stored in the file SAMPLE.P13. In order for a picture to be displayed in a folder, be sure to keep the palette file with the picture file.

You must copy the picture and the associated palette file into the directory containing the folder in which it will be used.

Graphics Modes in LWCaptur

LWCaptur will determine the graphics mode of the picture you are trying to capture and produce a file for the appropriate mode in the current directory or drive. If the display screen is in a mode not supported by LinkWay, the program will still save a file, but the file will not be usable with LinkWay.

SCREEN CAPTURE

C:>CD LINKWAY ENTER
C:LWCAPTUR ENTER
C:CD\ ENTER
C:CD (Directory of program)
C:(*name of program where you will execute the screen capture*) ENTER
Open the file to be screen captured.

When the image is displayed on the screen press SHIFT+PRINT SCREEN. You are prompted to type a name in the upper left of the screen. Type up to 8 characters and press ENTER. You may repeat the process for each new graphic file that you display on the screen.

When you have completed the screen captures, exit the program.

The choices are to either copy the screen captured files (*.PCM and *.P13) or open LWPaint and set the DIRECTORY path to them. The files are located in the program directory where the screen capture was executed.

To copy files to a data disk:

1. C:>copy \(program directory name)*.PCM

A: will copy all files with a PCM extension to diskette in drive A. Do not forget to copy all P13 files. If you successfully copied the files, delete the PCM and P13 files that are in the program directory. You may choose to access the files from LWPaint through the Directory option. Make certain the path is correct.

2. Open LWPaint and set the path to the program and open the files. Do not forget to change the path back to your data disk and save the file.

Because of their compatibility of common graphic file formats, two programs, StoryBoard and CSHOW complement LinkWay screen captures (many DOS programs will allow screen captures). StoryBoard provides tools to enchance the image before the capture. CSHOW is a shareware program that accepts several file formats that StoryBoard does not recognize.

NOTE: The resolution of the program displaying files for the screen capture MUST support the current LinkWay screen mode.

LinkWay Runtime

The LinkWay Runtime program allows LinkWay applications to be displayed without the LinkWay program. The following files are included with the Runtime program and may be distributed with your LinkWay application:

`RLINKWAY.COM`	LinkWay Runtime command file.
`LWR.EXE`	LinkWay Runtime executable file.
`LWEDIT.EXE`	Text editor. If your application includes any Document button, this file must be included.
`LWPRINT.EXE`	Used to print pages on a graphics printer.
`PRINTLAS.EXE`	Used to print pages on a laser printer.
`*.LFN`	Standard font and icon files.

All other portions of the IBM LinkWay program are subject to the terms and conditions of the Program License Agreement. If you installed LinkWay on diskettes, a **Runtime** diskette was created for you. If you installed LinkWay on a fixed disk, you can create a Runtime diskette by following the steps described here:

1 Type `cd\linkway` and press Enter.
2 Insert a blank, formatted diskette in drive A.
3 Type `makerun` and press Enter.
4 The **Runtime** files are copied to the diskette in drive A.

You may not need all of these files for your application. Delete any unnecessary files and then copy your completed folder and all corresponding files (picture, document, and so on) to the diskette.

Using Runtime

Start the Runtime program by entering the following:

```
RLINKWAY foldername
```

An IBM title is displayed for 2 seconds and then the specified folder is displayed.

Runtime Limitations

The features normally used for "authoring" an application will be disabled in Runtime. Any attempt to execute a disabled feature will result in the following error message:

```
Runtime version Function not available.
```

Creating a Batch File

After you have created a Runtime disk and copied all of the work files to the disk, a batch file can be created to simplify the process of starting an application. Start options can be included in the batch file to tailor the program modes, save memory, and control the environment (See Start Options on pages B-11 to B-14 in LinkWay manual).

Use a word processing software program to create the following batch file. Type:

```
@echo off
rlinkway foldername.lwm /r /b /t
@echo off
cls
```

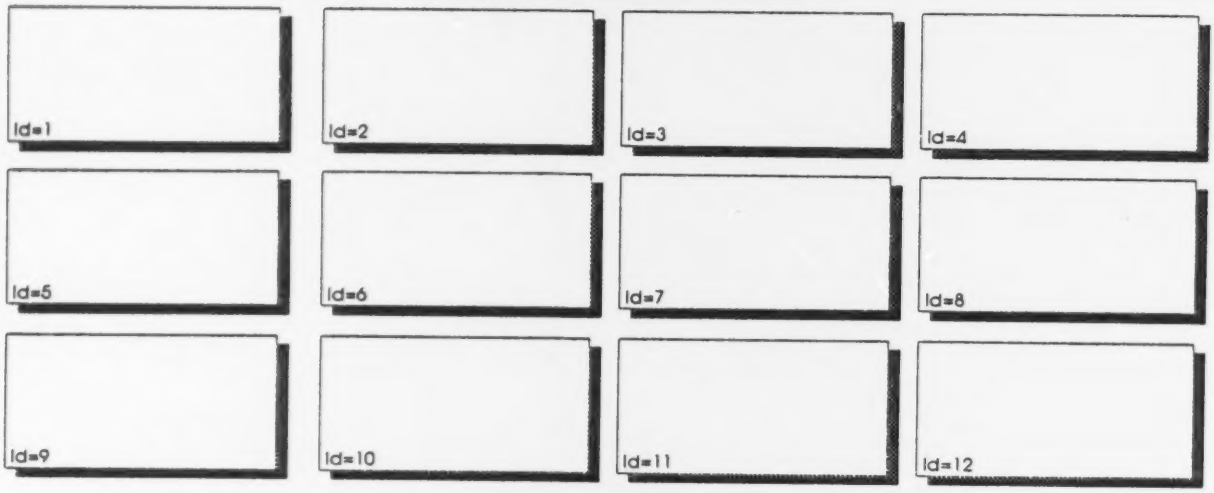
The "folder name" refers to the first folder in the application. Type the name of the folder and include the `.LWM` extension.

Save the batch file in **ASCII** to the floppy diskette containing your application files. The batch file name you are saving should consist of a simple name and must contain the extension `.BAT`

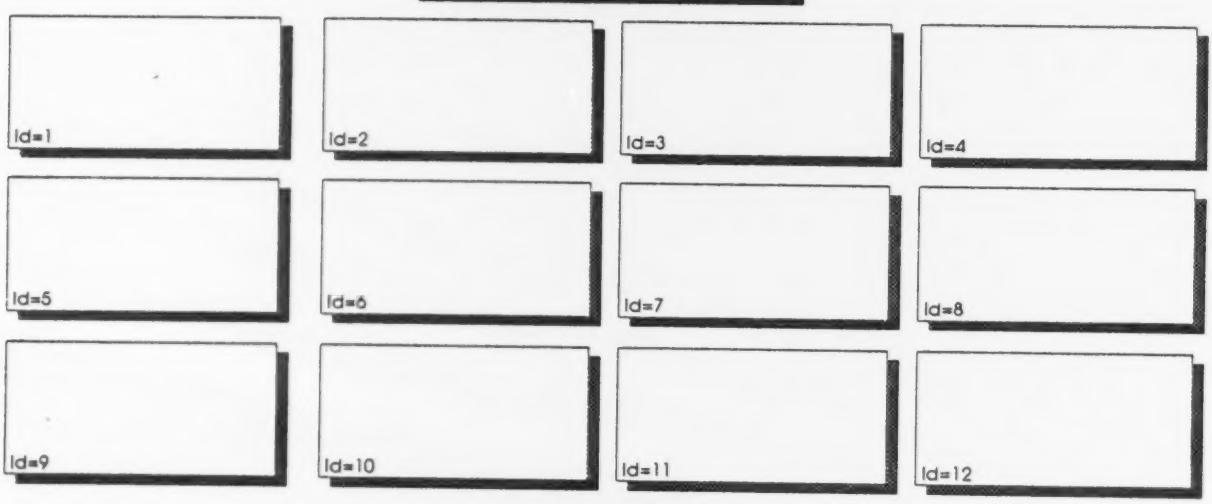
(Example: The *Where in Louisiana* batch file name is LA.BAT. Typing LA at the A prompt is all that is needed to start the *Where in Louisiana* Runtime application that is on the floppy diskette.)

The **Alt+Q** key combination can be used to exit LinkWay. Remember to include this information on your diskette label and in the HELP buttons.

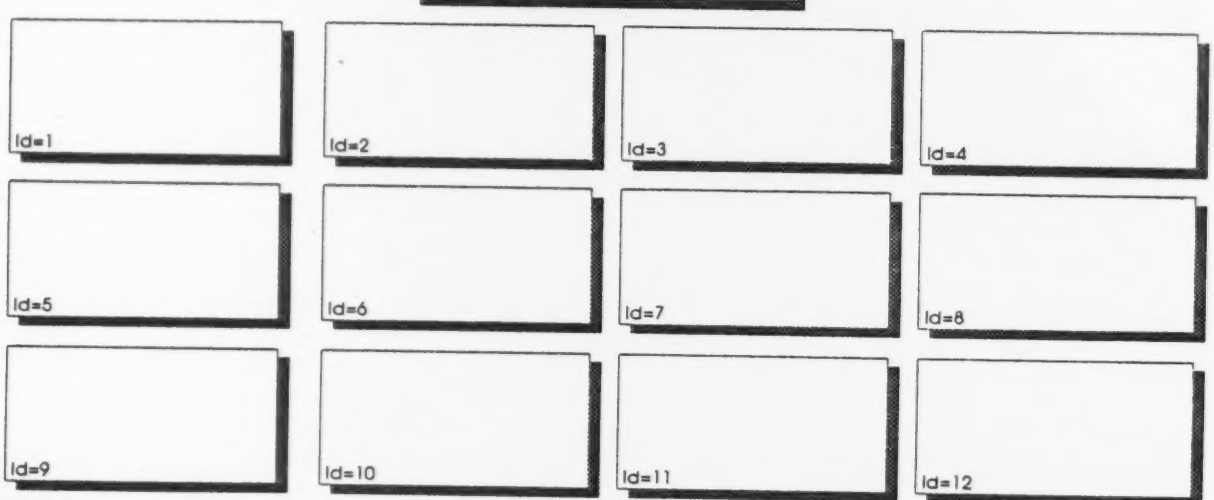
FOLDER NAME

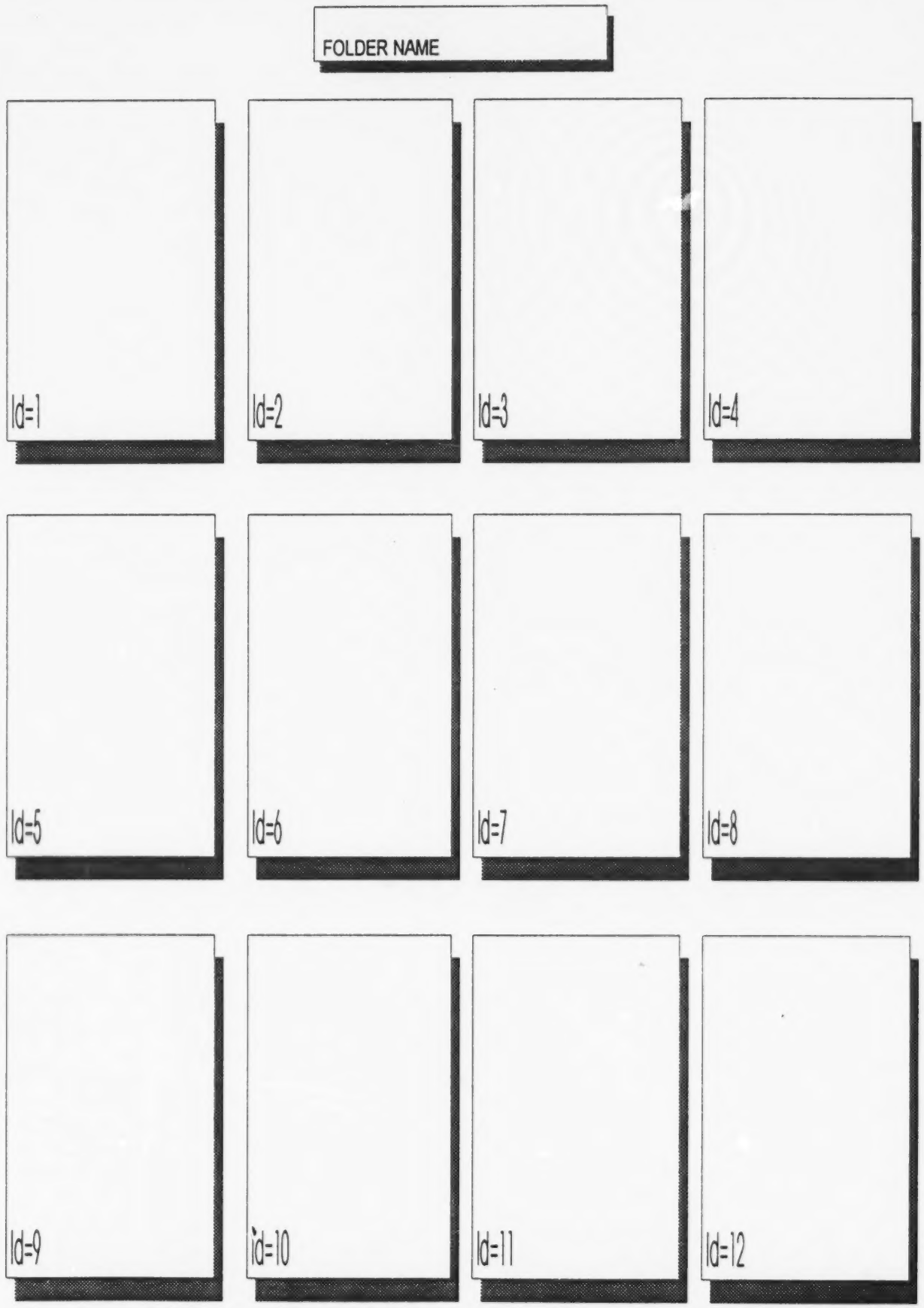


FOLDER NAME



FOLDER NAME




FOLDER NAME
Id=1
Id=2
Id=3
Id=4
Id=5
Id=6
Id=7
Id=8
Id=9
Id=10
Id=11
Id=12

STUDENT NAME _____

PAGE (Id= ____) PAGE NAME _____ FOLDER _____

BUTTON ICON _____
BUTTON NAME _____
BUTTON TYPE _____
LINK _____

BUTTON ICON _____
BUTTON NAME _____
BUTTON TYPE _____
LINK _____

BUTTON ICON _____
BUTTON NAME _____
BUTTON TYPE _____
LINK _____

BUTTON ICON _____
BUTTON NAME _____
BUTTON TYPE _____
LINK _____

BUTTON ICON _____
BUTTON NAME _____
BUTTON TYPE _____
LINK _____

BUTTON ICON _____
BUTTON NAME _____
BUTTON TYPE _____
LINK _____

BACKGROUND R= _____ G= _____ B= _____

_____ R= _____ G= _____ B= _____
OBJECT NAME

_____ R= _____ G= _____ B= _____
OBJECT NAME

_____ R= _____ G= _____ B= _____
OBJECT NAME

GRAPHIC FILE NAME _____
DOCUMENT FILE NAME _____
OTHER GRAPHIC FILE NAMES _____
OTHER GRAPHIC FILE NAMES _____

COMMENTS

_____
_____
_____
_____